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ADDRESS.

THE IDENTITY OF LUPUS VULGARIS AND LUPUS ERYTHEMATODES.

Chairman's Address, Delivered in the Section on Dermatology and Syphilography, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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In common with all other branches of medicine, dermatology has felt the result of modern bacteriologic investigations. The brilliant discoveries of Koch, the father of bacteriology, have shattered many idols and put a different aspect upon many things. The advances wrought have been so enormous as to thoroughly have revolutionized some matters. The etiology and pathology of many diseases have been cleared up and the way leading to the elucidation of many mooted questions pointed out.

Lupus vulgaris is one of the questions upon which the search-light of bacteriology has fallen with most beneficial effect. Prior to Koch's time its etiology and pathology were misunderstood. Now nothing is more surely established in medicine than that it is a tuberculosis of the skin. The crucial test of inoculation with pure cultures and with tubercular matter proved the identity of lupus vulgaris and tuberculosis. It is true that animals were successfully inoculated with tuberculosis with matter that was called scrofula before Koch published his experiments but to him belongs the credit of being the modern medical Moses who led his brethren out of the wilderness of darkness.

Koch inoculated and produced tuberculosis with material from tuberculous tissue in over five hundred animals. Other observers corroborated Koch's experiments and brought additional facts to our knowledge. Inoculations of tuberculosis were successfully accomplished in various ways by Koch's disciples.

Cornet, in Koch's laboratory, proved the possibility of inoculating tuberculosis through abrasions of the skin. He demonstrated that lupus tissue and pure cultures of tubercle bacilli when applied to an abrasion of the skin produced a local tuberculosis and also of the adjacent lymphatic glands, followed by a general miliary tuberculosis in most cases. Cornil and Leloir implanted lupus tissue into the peritoneal cavity of guinea pigs and in five out of fourteen cases induced peritoneal and general tuberculosis.

In eleven cases of Leloir and Cornil, and in four cases of Koch, which were examined for the purpose of proving the identity of lupus and tuberculosis, tubercle bacilli were found in every instance. Doutrelepont, Pfeiffer, Koch and Pagenstecher found tubercle bacilli in artificial lupus caused by the implantation of tuberculous products.

Bollinger has shown that the more concentrated the material and the greater the number of the bacilli in the injection used the more severe and the more rapid was the development of the lesions caused thereby. It was estimated that about eight hundred and twenty bacilli are required to produce fatal tuberculosis in guinea pigs.

The reasons for the identity of tuberculosis and lupus vulgaris are so well stated in Demme's classic brochure upon that subject, that his résumé from that source, making use of the translation as found in Senn's Surgical Bacteriology, page 172, are here given:

"1. Similarity of histologic structure.

"2. Presence of the bacillus of tuberculosis in granulation tissue of lupus.

"3. The production of typical tuberculosis in animals not immune to this disease by the implantation of lupus tissue or the injection of a pure culture of the bacillus of tuberculosis obtained from lupus tissue.

"4. The fact that patients suffering from lupus are frequently attacked by and die from tuberculosis of other organs.

"5. The prevalence of tubercular affections among relatives suffering from lupus (hereditary predisposition)."

These views are accepted at the present time by the medical world as the correct ones. Beside the foregoing distinctive anatomico-bacteriologic landmarks, lupus vulgaris has also well defined clinical aspects which belong to it exclusively and serve to differentiate it from every other cutaneous disease and therefore entitle it to recognition as a separate affection.

In spite of all this, claims have been advanced by eminent clinicians, particularly in France, that lupus vulgaris is identical with lupus erythematodes (or erythematosus as some call it); in other words, that these two maladies are one and the same. At first sight there may seem to be no foundation for such a hypothesis, yet upon closer investigation and study one can not resist the view that there are certain similarities between the two diseases, indeed, that there are more similarities than dissimilarities and that the pretensions of relationship between the two merit some consideration.

There appear to exist certain facts which would tend to show that there may be a connection, at least, between these two affections, if they are not really one and the same. There are certainly some points of resemblance. For many lupus vulgaris and lupus erythematodes are but two forms of cutaneous tuberculosis, which must be differentiated. In France they are regarded by many as but varieties of one and the same disease.

The gifted and talented Besnier is the most prominent champion of this opinion. In proof of the correctness of this view its adherents mention the frequent occurrence in those afflicted with lupus

erythematodes, of glandular swellings, tuberculosis of the joints, complicated with tuberculosis of internal organs. Besnier lays great stress upon these complications or sequelæ and explains the fact that their existence is denied upon the ground that they are overlooked and only recognized when particular attention has been called to them. He further makes the statement that it is an every-day occurrence with him to encounter tubercular affections complicating cases of lupus erythematodes, and if not in the party affected, then in the family of the sufferer, or in those with whom he has been in intimate and close connection during the prevalence of a tuberculous affection.

The majority of observers, however, do not affirm the correctness of Besnier's dictum. For those who believe in the identity of lupus vulgaris and lupus erythematodes, there remains this incontrovertible fact which is seemingly a very strong argument, that there exist stages of transition from lupus erythematodes to lupus valgaris, to such an extent that a lupus erythematodes may be seen passing into a lupus vulgaris so that the symptoms of one affection fade insensibly into those of the other in such a way that the characteristic symptoms of the two affections are combined in one patient.

The two forms may coëxist in the same subject at the same time. Sometimes we see the two running imperceptibly into one another. Vidal believed that a lupus erythematodes may precede or antedate a lupus vulgaris. As Brocq puts it, a lupus vulgaris may begin as a lupus erythematodes.

Besnier insists also strenuously upon this point. There is no doubt but that such cases do occur, where one disease antedates the other and where these two diseases shade so together and lose their clinical identity as to make it impossible to differentiate by looks one from the other. As a very good example of such a condition the following case (taken from Jamieson's book on diseases of the skin, p. 518) is here transcribed:

"In it a well-marked symmetrical lupus erythematosus of the cheeks passed imperceptibly into a lupus vulgaris of the alæ of the nose, with characteristic ulceration and crusting. The two diseases, too, ran inextricably one into another under and behind the lobe of each ear, one, the right, being more prominently affected. The history was unfortunately obscure. This case would show either that the disease may occasionally be transformed in appropriate situations into the other, or that the two forms" (?; the interrogation point is mine,) "of lupus may coëxist in one and the same individual."

This excerpt which occurs a little further on is also worthy of being mentioned:

"There are forms of lupus vulgaris which touch very closely on the limits in that direction of lupus erythematodes, and we could almost construct a series of cases leading by gradual steps from one to the other." That is just what some of the French authors have done.

This would seem to be very seductive reasoning could not the circumstance of the coëxistence of the two affections, contemporaneously, in the same patient be explained upon these two grounds: 1. That a lupus vulgaris may be superadded to an already present lupus erythematodes by inoculation with tuberculous matter, or with the active principle of tuberculosis, the possibility, aye probability, of which receives additional confirmation in that lupus vulgaris has so frequently its seat on uncovered and exposed parts as the hands and face. Very easy is this when there is an abrasion of the skin or where the skin is in a very susceptible condition, having lost its resistant power by disease and its penetration rendered facile by the persistence of some other affection as lupus erythematodes. What is there to prevent a lupus vulgaris to be inoculated on a patch of lupus erythematodes? All things being favorable to an inoculation, it can not be said that the presence of lupus erythematodes renders the subject immune to inoculation with lupus vulgaris. Even Dr. Besnier virtually admits this when, in dilating upon the treatment of lupus vulgaris, he opposes the use of cutting or surgical methods because they tend to a local tubercular reinfection and thus increase the number of those suffering from phthisis. If this be true in a patient suffering from lupus vulgaris, how much the more so in one affected with lupus erythematodes? 2. The presence of two different cutaneous affections in the same subject at the same time does not prove that they are related or are one and the same disease, were they even met with oftener together at the same time in the same individual, instead of very rarely and exceptionally so as in the two diseases under discussion.

Different affections are encountered in the same subject in dermatology quite frequently. We might just as well say that because a person affected with acne becomes infected with scabies, that these two affections are related to each other.

We must admit that these cases are exceptional, and where such a state of affairs exists it is simply a coincidence and has no etiologic or other significance. The anatomic and histologic data of lupus vulgaris and lupus erythematodes are entirely different.

Bacteriologically they diverge as wide if not wider. Leloir and no other competent observer has ever been able to find the tubercle bacillus in lupus erythematodes and never has lupus erythematodes been transferred to man by inoculation with tubercular matter or with pure cultures from tuberculosis. They have nothing which links them together except the name, or rather the misnomer lupus, a term which is not a desirable one, as it gives no idea either of their etiology, histology or of anything else connected with them. We are therefore forced to these conclusions: That lupus vulgaris and lupus erythematodes are two entirely separate and distinct diseases. That lupus vulgaris is a local tuberculosis of the skin. That the term lupus vulgaris should be eliminated from our nomenclature of diseases, and the affection in question designated as tuberculosis cutis qualified by the name of the part of the surface affected. That the term lupus erythematodes may be retained, as it has usage and custom to recommend its continuance, until we shall have a better understanding of the pathologic processes of the disease, with the knowledge that it refers to a chronic inflammatory process of the skin of whose exact nature we are ignorant of at the present time.

DISCUSSION.

DR. OHMANN-DUMESNIL, of St. Louis, said that the tubercle bacilli were never found in lupus erythematosus, except as an accidental infection.

DR. BULKLEY, of New York, expressed the opinion that he agreed with Hebra that there was no relation between lupus

vulgaris and lupus erythematosus. He referred to two cases in his own experience where lupus vulgaris had developed in patients with lupus erythematosus, but he believed it was by the subsequent inoculation of the tubercle bacilli on the lupus erythematosus base. He also thought that in Paris true lupus vulgaris of a superficial character was often called lupus erythematosus, and so confusion was apt to result as to the relationship between the two diseases. He had used phosphorus with success, in the form of Thompson's solution, with glycerin and alcohol; whereas the treatment produced no effect on lupus vulgaris. He considered that lupus erythematosus was a congestive seborrhea. In one perfectly typical case of lupus erythematosus on the hands and face the patient developed pulmonary tuberculosis, and after watching her for ten years she died of consumption.

ORIGINAL ARTICLES.

FOUR RECENT CASES OF EXTRA-GENITAL SYPHILIS IN PRIVATE PRACTICE.

Read in the Section on Dermatology and Syphilography at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md., May 7-10, 1895.

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While cases of syphilis innocently acquired are not of very infrequent occurrence, and the number of reported cases is increasing rapidly, the following recent instances in private practice are thought to be of sufficient interest to warrant placing them on record. They serve to call attention to the dangers which arise from the disease on every side, and to illustrate the diverse locations where the initial lesion of syphilis may be found, as well as the modes by which the poison may enter the system:

Case 1.—Chancre of the Cheek. Mrs. W., aged 24, was sent to my office in consultation May 28, 1894, on account of a sore on the right cheek, just below the zygoma, which had refused to heal. It had begun six weeks previously, as a small pimple like a mosquito bite, which had soon broken down, leaving a raw surface, which increased in size to the time of the visit.

When first seen the sore was almost circular, about half an inch in diameter, pouting above the level of the skin a little and with considerable induration; the surface was partly exposed and presented a red, glairy appearance, and was partly covered with a brownish crust; the glands beneath the jaw on that side were enlarged and hard. A little later she called with an exquisite maculo-papular syphilid.

The husband was found to be syphilitic, in an acute stage, but the exact mode of inoculation was not learned; it is readily understood, however, how the small abrasion following the first lesion, which was presumably non-specific, could easily become inoculated during the intimate relations of the married life, from mucous patches in the mouth of the husband.

She was then pregnant four months, and on Jan. 22, 1895, she was sent to me again with the child, then aged four months, presenting the perfect picture of inherited syphilis: there was an enormous amount of papulo-squamous eruption, involving the head and limbs mainly, including the palms and soles, with the drawn "old man" facies so commonly seen. The child had been born free from eruption, but had had "snuffles" almost since birth; the eruption had developed one month before the visit, when the child was three months old.

Case 2.—Chancre of the Finger. Dr. D., aged 29, consulted me Jan. 14, 1895, for the diagnosis of a very general macular eruption, which had begun three days previously, on the abdomen, and rapidly increased, until at the time of the visit, it covered the body and limbs very generally. It was attended with a very general adenopathy, which followed pretty quickly upon an enlargement of the glands of the right elbow and axilla in connection with the local sore on the right middle finger. He had had some rise of temperature for a length of time; a month previous it had registered 100 degrees, and was 99.2 a day or two before the visit. For two weeks he had had pain and tenderness over the sternum.

The origin of the sore was a little interesting. He had for some time had an ordinary wart on the pulp of the last phalanx of the right middle finger, near the center, but as it annoyed him in gynecologic work (he having a large dispensary, obstetric and gynecologic practice) he had attempted to get rid of it. For this purpose he had burned it with nitric acid in the preceding September. He had covered the lesion with cotton, with collodion over it, but it suppurated, and the wound was again cauterized with nitric acid three or four weeks later, and again carefully covered with cotton and collodion. As it did not heal he burned it again with nitric acid, four or five weeks previous to the visit, when it appeared to heal; a small crust, however, remained in the center, and a considerable area of hardness beneath. He was not conscious of having exposed it to infection, and as he had feared this because of the nature of his practice, he kept it carefully protected.

When examined there was a small crust, hardly a line in diameter, in the center of the flexor surface of the last phalanx of the right middle finger, and beneath it an induration, about one-third of an inch in diameter, rather movable; there was little redness and no pain, and, were it not for the adenopathy at the bend of the arm, and that in the axilla, the size of a chestnut, and the general symptoms, it would have been hardly possible, even for one familiar with extra-genital lesions, to have given a positive diagnosis of chancre of the finger. It is needless to say that the subject of venereal infection was gone over, and that there had been no venereal exposure nor was there other initial lesion of syphilis elsewhere.

Case 3.—Chancre of the Right Nostril. Mrs. C., a previously healthy lady, was brought to my office with what had been supposed to be an epithelioma of the right nostril, on May 18, 1894. As I learned from other sources, her son had had active syphilis, and his wife had been confined in the preceding December, the child soon developing hereditary syphilis, of which it died on April 30. She had had almost constant care of her grandchild, up to its death, it having abundant eruption, mouth lesions, etc.

On April 15, she had first noticed a soreness in the right nostril, which had increased to the time of the visit, the first sensation was like a "cold in the nose," the nostril being closed by edematous swelling, and very shortly there was much pain through the right temple and back of the head.

When first seen there was a hard mass in the right nostril, quite within it, against the septum, which blocked the lumen to a considerable degree, so that she did not breathe through it. The lower edge was quite sharply defined, and, as far as could be felt, it presented a hard cartilaginous feeling; the surface of most of it was superficially ulcerated.

There was already a slight macular eruption about the neck, and a few large flat lesions behind the right ear. The lymphatics beneath the right jaw were very much enlarged, and there was also some adenopathy behind the right ear.

Feeling quite sure of the diagnosis on the first examination, it was still thought best to defer instituting specific treatment until further study of the case and until I could learn more of the probable source of infection. I gave her only a soothing lotion and ointment. It was after the second visit that I learned from another son in regard to the syphilitic child and her care of it.

About one week later I saw her again when the eruption was found to have increased greatly over the back, chest, and arms, and was unmistakable. She had some general osteoscopic pains, and tenderness of the shins. The ulcer was about the same, little if any influenced by the local treatment. She was then given a tablet containing one grain of mercury and chalk every two hours.

Two weeks later it was noted that she was feeling very much better in every way. The ulcer in the nose was greatly improved and she could breathe through that nostril. The eruption had already somewhat faded. She had averaged about eight tablets daily, sometimes had taken ten.

Three weeks later the ulcer in the nose had entirely healed and she breathed almost perfectly through that nostril. There had been no local mercurial treatment, only a little mild camphor and zinc ointment had been applied from the first. The eruption had then almost entirely faded, but there were still glandular swellings beneath both jaws, and the shins were yet tender. She had diminished the tablets to two or three daily, for the previous week, because the teeth felt sore. On July 28 the sore was noted as completely healed, with a depressed surface where it had existed; the eruption had quite vanished, but there were some mucous patches on the lips. She has been seen occasionally since that time, and as she is rather neglectful of treatment she occasionally has had manifestations of her disease. In regard to the source of her infection, although she could not trace it to any particular event or action, there can be no question but that in her ministrations to her syphilitic grandchild she carried the poison to the nostril, probably with the finger.

Case 4.—Chancre of the Left Tonsil. Mr. E., aged 59, was brought to me by his physician on May 14, 1894, on account of a very general maculo-papular eruption covering the body and extremities.

He had been suffering for four weeks from very severe general pains in the neck and back, and also aching of the bones all over. This had been considered rheumatic or neuralgic by his physician, and he had had plasters in various places and treatment with the Turkish bath, Rochelle salts, quinin, colchicum, etc. He had also complained of soreness of the throat much of the time, and a cough. Four or five days before his visit, an eruption began on the forehead which had increased rapidly up to the time of his visit, when it had become very general. There could be no mistaking the maculo-papular syphilid which he presented, which extended over his bald head, upon the trunk and limbs, even on the palms.

In searching for the source of infection, examination of the genital region showed no trace of a primary lesion, and it was learned that he had had no connection for a year. Nor was there any sign of a chancre, past or present, on any other external part of the body, nor had he had any sore.

He had had, however, trouble on the left side of the throat, with swelling beneath the left jaw, which latter had, however, about disappeared at the time of the visit. There was not very much to be seen in the throat except a dull redness of the left tonsil, with a little superficial ulceration. There was no record made as to hardness, and the facts regarding this have escaped me. But from a total absence of any other possible site of infection, and from the amount of trouble he had had on the left side of the throat, with the adenopathy beneath the jaw on that side, I have no doubt whatever that the infection took place in that locality. Among the fifteen cases of chancre of the tonsil, which I recently reported,[1] the tonsillar lesion was relatively insignificant in some instances, as we know it often to be in the genital region and elsewhere; although it may often produce large tonsillar lesions, giving rise to much trouble and pain, this is not at all necessary to secure infection, and it is well known that chancre within the cavity of the mouth, especially in children, may very frequently be overlooked, until other signs of syphilitic infection call attention to their presence.

All the localities represented in these cases have been repeatedly observed to be the seat of syphilitic infection. Few realize, however, with what relatively great frequency the point of entry of the syphilitic poison is in the region of the mouth and throat. Thus, in my recent study of the subject,[2] out of a total of 9,058 extra-genital chancres, I found records of no less than 307 cases of chancre of the tonsils; there were also 264 cases where the location of the chancre was "deep oral and nasal;" and in 734 cases it was recorded as in the "buccal cavity." These, together with 157 cases on the tongue and 42 on the gums, make no less than 1,504 cases where infection took place within the cavity of the mouth, or over 16.5 per cent. of the entire number analyzed. Adding these to 1,810 cases of chancre of the lip, there collected, we have a total of 3,314 cases or 36.5 per cent. in which infection occurred in the region of the mouth. With this very great relative frequency in this locality, it is well to be on the lookout for instances where the poison has been here introduced.

In addition to the four cases here detailed, where the site of non-venereal infection was definitely known, several other cases have been observed in my private practice where there was every reason to believe that the disease was thus acquired, but where even careful investigation failed to demonstrate with sufficient certainty for report the exact location of the primary sore; some of these have been very interesting and puzzling, but need hardly be detailed here. This is quite exclusive of instances of marital or hereditary syphilis of which a number have also been under observation.

[1] Transactions Medical Society, State of New York, 1893.
[2] Syphilis in the Innocent (Syphilis Insontium), Bailey & Fairchild, N. Y. 1894.

Including the four cases above narrated, of extra-genital chancre, no less than 120 instances of this form of infection have come under my personal observation and care. The histories of 116 of them are given in the recent work referred to on "Syphilis in the Innocent." For those who may not have seen the list, I will present it here in full, in order to illustrate the frequency with which other portions of the body than the genital region may become the seat of the initial lesion of syphilis. These instances occurred among something over 2,000 cases of syphilis seen in various forms and states; the extra-genital infection being demonstrated in about 6 per cent. of all the cases seen.

PERSONAL CASES OF EXTRA-GENITAL CHANCRES.

Location.	Male.	Female.	Total.
Chancre of the lip	20	31	51
" " tonsil	9	7	16
" " finger	14	2	16
" " breast		8	8
" " tongue	3	3	6
" " cheek	5	1	6
" " eyelid	3	1	4
" " chin	3	1	4
" " hand	1	1	2
" " nose	1	1	2
" " ear	1		1
" " temple		1	1
" " neck		1	1
" " forearm	1		1
" " sacral region	1		1
Total	62	58	120

Of these 120 cases it will be seen that the males are slightly in the preponderance, which is rather contrary to the common belief. I think, however, that these figures, although small, probably show the correct proportion; as a rule, the patients with syphilis have come on account of the eruptions present some time during the course of the disease, or because of the local sore present, which is commonly supposed to be a skin lesion. Therefore, both the proportion of extra-genital chancres, and the relation of the sexes are more likely to be correct than in an experience drawn from venereal practice alone, where many of the extra-genital sores would not present themselves.

The cases here narrated, and those represented in the table also, show how careful we should be when having to do with syphilis in a patient, not to necessarily charge the individual with wrong doing, for the disease is much more frequently acquired innocently than is commonly thought. Among the cases of syphilis presenting themselves in my private and public practice, about 6 per cent., or one person in sixteen or seventeen had received the disease through extra-genital infection; when we come to include the cases of marital and hereditary syphilis it is quite probable that over 10, perhaps 15 per cent. of all cases acquire the disease quite innocently of all sexual transgressions.

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ULCERATIVE SYPHILID OF THE PHARYNX.

Read in the Section on Dermatology and Syphilography, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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Syphilis attacks the pharynx like any other organ, and cases have been reported in which the initial lesion was found in the upper pharynx, the infection

being communicated by means of the Eustachian catheter. In the secondary stage syphilis attacks the pharynx as a result of a specific erythema, which from the soft palate and the tonsils spreads to the surface, and sometimes it produces a catarrhal inflammation without characteristic specific symptoms. Mucous patches which we so frequently meet with on the tonsils, faucial pillars and soft palate, very rarely are found on the wall of the pharynx. Zeissler never saw a mucous patch on the pharynx, and in my experience I do not remember to have seen mucous patches on this region.

Ulcerative syphilid affects the pharynx at an advanced secondary period. As the affection is not a common one, I find it worthy to be submitted to your attention.

In a large number of syphilitic patients in my practice I find only four cases of this peculiar lesion recorded. All four were men and all used to drink alcoholic liquors and chew tobacco.

The affection began at the time when the patients were in apparent good health, two to three years after the infectious chancre had first appeared. Feverish reaction, and an intense pain in the act of deglutition and in the articulation of words were constant symptoms in each case. The lesion consisted of an inflammatory prominence, of the size of a dime, dark red, which soon showed ulceration in the middle. The center of the ulcer, like a crater, was deep and covered with a yellow diphtheroid detritus; the edges, brown-red, were sharply cut and elevated above the surface of the mucous membrane, and were surrounded by an inflammatory halo. Recovery took place with a whitish superficial scar, which remains always perceptible.

Case 1.—J. S., 25 years old, butcher by trade, man of a splendid physical constitution, had hard chancre on the internal surface of the prepuce in February, 1885. In May of the same year had a papular eruption accompanied by mucous plaques of the mouth and of the anus. He was subjected to intramuscular injections of sublimate 1 per cent. After twenty injections every symptom had entirely disappeared. He was in good health, had no syphilitic symptoms, and refused further treatment. On March 19, 1886, came again to consult me for sore throat and fever, which he thought due to a cold. He was somewhat emaciated. A superficial examination of his throat did not reveal any specific lesion of the soft palate, the tonsils were normal, but the posterior wall of the pharynx looked very red. As speaking was difficult and the voice had a nasal tone, I subjected him to a rhinoscopic examination. On the upper portion of the pharynx behind the velum palati, I found an ulcer of the size of a five cent piece deeply and sharply cut in the mucous membrane, covered with a yellow diphtheroid detritus with elevated swollen edges, surrounded by an inflammatory halo. The diagnosis was not difficult, knowing the preceding history. A mixed treatment of inunctions with mercurial ointment and large doses of potass. iodid, combined with local applications of peroxid of hydrogen for cleansing the surface and then blowing powdered iodoform, soon brought about recovery.

Case 2.—M. P., Italian laborer, 37 years old, good constitution, used to smoke pipes and drink whisky, came to my clinic on July 15, 1893. He complained of excessive pain in attempting to swallow anything, had some remittent fever and was wasting away rapidly. The man had been under my treatment nearly one year before for papular syphilid, which yielded easily to fifteen intramuscular injections of sublimate 1 per cent. There remained a stubborn sternal neuralgia, and for this he took iodid of potassium, followed by pills of protoiodid. The patient was well, and I did not see him any more until said date, nearly one year after the first treatment.

At present the patient is very pale, of sallow hue, emaciated; a few enlarged glands can be found on the cervical region as evidence of the past trouble. No mucous patches in the mouth, none on the throat, which is scarcely red. By the aid of the tongue depressor a vivid redness can be seen at the base of the pharynx, which surrounded a round ulcer the size of a quarter of a dollar. The edges of the ulcer were sharply cut, inflamed, elevated on the surface of the mucous membrane, the hollow of the sore showed a yellow diphtheroid appearance, discharging purulent matter. The patient was treated with mercurial inunctions and iodid of potassium in large doses. Locally the ulcer was washed with peroxid of hydrogen and covered with iodoform powder. In twenty days the ulcer had completely healed up and the patient was discharged.

Case 3.—W. F. F., a young man 27 years of age, barkeeper by occupation, of good and sound constitution, has always enjoyed good health. In April, 1892, he called on me with a syphilitic roseola. The initial lesion of syphilis was found on the second phalanx of the thumb of the right hand on the internal side. It was an ulceration half cicatrized on an indurated base. The epitrochlear gland of that side was hard and swollen. The patient received twenty intramuscular injections of sublimate 1 per cent. and on the ulcer emplastrum hydrargyri was daily applied. In a short time the roseola had completely disappeared and the ulcer of the thumb thoroughly cicatrized. The patient was discharged, with the advice to take two pills a day of protoiodid hydrarg. for two months longer.

In January 1893, he came again with a pustular syphilid. A few ectymatous ulcerations were scattered on the scalp and on the face. He was subjected to another course of treatment, and when better was not seen again.

The patient kept on in his occupation and used to drink a good deal of whisky and to smoke. On August 1893, he came to my office complaining with difficulty of speaking and swallowing. He had fever and was greatly emaciated. Pushing down the tongue with the depressor a round ulcer could be seen on the base of the pharynx of the size of a quarter of a dollar, surrounded by an inflammatory halo, with swollen edges, sloping down to a yellow grayish bottom. A mixed general treatment was begun, and local washing with peroxid of hydrogen and dressing with iodoform powder in short time brought about recovery.

Case 4.—In my hospital service, T. P., on February 18, 1895, was admitted with one of the same ulcers on his pharynx. He had acquired syphilis nearly three years before, and had been treated in the same institution. He had high fever and experienced great difficulty in swallowing.

This man like the others had been used to drink liquors and was in the habit of chewing tobacco.

The treatment, general and local, was like that of the other cases and in three weeks the ulcer was perfectly cicatrized and the patient left the hospital.

In the literature on syphilis of the pharynx there is not much said about this kind of lesions. Seifert[1] speaks of ulcerations, hard chancres, mucous patches of the tonsils and palate, but does not speak much of the pharynx. In the same way J. N. Mackenzie—"Syphilis of the Upper Air Passages"—speaks of secondary lesions of the pharynx as a result of lesions of the surrounding parts, mentions tertiary lesions, but nothing definite on this affection.

In my opinion, I find this ulcerative syphilid of the pharynx to be rather a rare one, considering that in a large number of syphilitic patients only four showed this affection. All the four cases were in men, and I never met with this affection in women.

I find this affection of great importance for the diagnosis, for the possibility of being exchanged with ulcerations of diphtheritic or of any other origin.

I do not consider the affection as a true tertiary lesion, but only as a late secondary ulceration. From the habits of the four patients I should come to the conclusion that the use of alcoholic liquors and chewing tobacco has a great deal to do with the production of this ulcerative affection. The irritation produced on the inferior portion of the pharynx by the passage of the alcohol and of the saliva saturated with the irritant tobacco juice is sufficient cause to excite a syphilitic inflammatory affection resulting in ulceration.

The affection is very painful, prevents the patient

[1] Syphilis der oberen Luftwege. Deutsche Med. Wochensch., 1893.

from eating, and in all the cases was accompanied with fever.

The ulcer heals up readily when with a general antisyphilitic treatment a local antiseptic medication is used. A superficial, whitish scar is the result of this ulcerous syphilid, which remains always perceptible on the mucous membrane. I have never seen deep scars resulting from this affection, like those from the true gumma of the pharynx, which may result in a stricture and impairment of the function of the organ.

The coexistence of fever with this affection and the stormy inflammatory symptoms cause me to place it rather among the secondary symptoms of syphilis than among the tertiary. In the tertiary affections we see more tendency to a slow process of hypertrophy, as it is in the production of gumma, while in all secondary lesions we see a tendency to inflammation.

The local irritation as mentioned above, from the use of tobacco and alcohol, is the most effective factor in producing this peculiar ulcerative lesion of the pharynx.

LUPUS TREATED BY GALVANISM.

(ILLUSTRATED BY PHOTOGRAHS.)

Read in the Section on Dermatology and Syphilography, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY B. MERRILL RICKETTS, M.D.

CINCINNATI, OHIO.

So much has been said concerning the various forms of lupus that I refrain from speaking of it from any other than a personal point of view. I would refrain from speaking of any other treatment than is herein mentioned, especially as I presented a paper to the Pan-American Congress upon the extirpation of lupus tissue.

It is conceded that constitutional treatment avails nothing in this disease, and I think that I am safe in saying that caustics and the curette are of little use unless carried to the extreme.

I wish now merely to report one of several cases in which I have used the galvanic needle with the greatest satisfaction. There is, however, one great objection to its use—that is the length of time required—but as the treatment is not imperative, the disease being exceedingly slow in its progress, I do not think that good results should be sacrificed for the want of time.

The length of time required to destroy a given area affected with lupus, depends upon the degree of tolerance on the part of the patient.

However, if the patient is an adult, or even a child, the amount of galvanism used may be almost without limitation, if a small amount of cocain has been previously injected within and about the affected area. In this way the tissue may be destroyed more rapidly.

Where there are several lesions to be treated, the effects of cocain in any one will pass off before it is necessary to inject another. In this way the length of time of a sitting may be indefinite, and the amount of cocain practically disregarded, if the amount used in any one lesion is not more than absolutely necessary to produce anesthesia.

As stated on a previous occasion, an operator should accustom himself to the use of but one kind of cocain, and he should familiarize himself with the

Mrs. M., white, aged 51, born in Ireland, mother of several healthy children. Lupus erythematosus began at the age of 30 on the face and neck. Treated for years for syphilis without result. Twenty-two lesions treated by galvanic needle, with twenty-one cured, not having returned in eighteen months; twelve excised with knife; three returned and were afterward treated by galvanic needle and did not return.

use of that kind, which should always be made into solution at the time of the operation.

By following these few thoughts I can hardly conceive of any accident occuring, or any pain resulting from the use of the needle.

The means of determining when the diseased tissue is destroyed are rather difficult to understand—experience counting more than all other things in determining that.

The insertion of the needle should be in every direction through the diseased tissue, and the application continued until all evidence of redness has disappeared.

The needle should extend through the integument, it not being necessary to attack anything beneath it; at least, this has been my experience.

I believe that galvanism is to the lupus bacillus

what arsenic is to the cells of epithelioma. I have not been able to find any other influence so satisfactory in their destruction.

The principal case in question is as follows:

Mrs. M., white, aged 51, born in Ireland, the mother of several healthy children, consulted me in the summer of 1889 for a number of lesions about the face and neck, which had existed about sixteen years and had been considered by many professional gentlemen as of syphilitic origin. She had used large quantities of iodid of potassium and mercury, both internally and externally, without any effect whatever. It had, however, been diagnosed as lupus vulgaris by one or two physicians in the community.

During my absence, my assistant again placed her upon the protiodid and large doses of iodid of potassium, without any result. She was under our care for several months and then disappeared from my notice. In the fall of 1893, she again consulted me and I then advised her to accept whatever I might suggest. This she readily consented to do. There was at this time about fifty-eight lesions, both large and small. I excised twelve of the smaller ones with the knife and destroyed twenty-two, several of which were the largest, with the galvanic needle.

Three of those excised by the knife returned, while there was but one of the twenty-two destroyed by the needle which returned, that one being upon the forehead; its location caused me to discontinue the current before the lesion was entirely destroyed. I had reason at the time to believe that it would return All of the four lesions returned within six months, and the three which had been excised were destroyed by the needle. The one on the forehead, however, has never been interfered with, and allowed to develop *ad libitum*. It has increased in size about one-fifth.

Of the thirty-four lesions destroyed, but one remains to be seen.

Sickness, death, and other misfortunes in her family have rendered it impossible for me to continue my work in this case, which I regret exceedingly.

I herewith present the photographs taken six months after the treatment had been commenced. There are, of course, cicatrices as the result of the destruction of tissue.

It is now twenty months since I began the work, and but one of the fifty-eight lesions remain—that upon the forehead—which had been attacked by either the needle or knife.

I hope, in course of time, to make a subsequent report upon this case, and I herewith submit it for your consideration, fully realizing the discouraging feature of any treatment in any form of lupus.

"The Trinidad."

SUGGESTION AS AN IDEO-DYNAMIC FORCE.

Read at the meeting of the Chicago Academy of Medicine, Dec. 15, 1885.

BY W. XAVIER SUDDUTH, M.A., M.D., F.R.M.S.
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CHICAGO.

Among the many curative agents that have been brought forward during the last few years none is attracting wider attention at the present time than the subject before us. Technically speaking suggestion is the active principle of all psycho-therapeutic measures. Its discovery was the result of years of labor in the laboratories of the biologist and experimental psychologist. In the fullest sense it is therefore the legitimate child of science and not an outcast as some would try to make out. With such parentage it behooves us to look well into its claims and study the phenomena of its manifestations.

Like many other curative agents discovery of suggestion came about through close observation of pathologic conditions. Just as the study of bacteriology in its relation to pathology resulted in the formulation of the germ theory of disease and the subsequent discovery of antisepsis and serum therapy, so has the study of morbid psychology established the value of suggestive therapeutics in the treatment of functional derangements.

The late Daniel Hack Tuke was the Virchow of psychologic medicine and his works stand to-day as classic monuments to his memory. His labors extending over a full quarter of a century have thrown a flood of light upon the influence of the mind on the body in the production of disease. He was a pioneer in the field of morbid psychology and while he was preceded by great lights, yet his light showed clear to the end.

Unzer, as early as 1771, wrote "Expectation of the action of a remedy often causes us to experience its operation beforehand," and the immortal John Hunter, whose breadth of intellect enabled him to grasp many scientific truths generations ahead of his time, lectured to his classes in 1786–7 on the subject of "Attention and Expectation." Johannes Muller in 1838, gave added light to our understanding of the influence of mental states over bodily functions. He held as a general fact "that any state of the body, which is conceived to be approaching and which is expected with an unfailing confidence, will be prone to ensue, as the mere result of an idea, if it do not lie beyond the bounds of possibility." Braid, in 1841 threw a flood of light on the influence of the mind upon the body by his investigations into mesmerism, which he rechristened hypnotism. In the compiling of his book "Influence of the Mind upon the Body" Dr. Tuke drew upon an extended personal experience and from over one hundred authorities upon the subject. I should be vain indeed to hope to add to the scope of his labors in that direction but such is not my intent; in this paper my sole purpose is to offer a possible explanation of the method of application and the operation of suggestion in the treatment of disease.

In order that we may proceed intelligently to the consideration of the subject let us first seek to establish a definition for suggestion.

James Mark Baldwin, M.A., Ph.D., Stuart Professor of Psychology in Princeton University, in a recent work (1895) on the "Mental Development in the Child and the Race," discusses the subject and defines suggestion "as the tendency of a sensory or an ideal state to be followed to a motor state" and says "it is typified by the abrupt entrance from without into consciousness of an idea or image, or a vaguely conscious stimulation, which tends to bring about the muscular or volitional effects which ordinarily follow upon its presence." Janet defines suggestion as "a motor reaction brought about by language or perception." This narrows the field to certain classes of stimulations, well defined in consciousness, and overlooks the more subtle suggestive influences emphasized by the Nancy school (of theorizers). Schmidkunz makes it: die Herbeirufung eines Ereignisses durch die Erweckung seines psychischen Bildes.[1] This again makes a mental picture of the suggested "event" in consciousness necessary, and, besides, does not rule out ordinary complex associations. It neglects the requirement insisted upon by Janet, *i.e.*, that the stimulus be from without, as from hearing words, seeing actions, objects, etc. Wundt says: Suggestion ist Association mit gleichzeitiger Verengerung des Bewusstseins auf die durch die Association angeregten Vorstellungen.[2] In this definition Wundt meets the objection urged against the definition of suggestion in terms of complex association, by holding down the association to a "narrowed consciousness;" but he, again, neglects the outward nature of the stimulus, and does not give an adaquate account of how this narrowing of consciousness upon one or two associated terms, usually a sensori-motor association, is brought about. Ziehen says: In der Beibringung der Vorstellung liegt das Wesen der Suggestion.[3] Here we have the sufficient recognition of the artificial and external source of the stimulation, but yet we surely can not say that all such stimulations succeed in getting suggestive force. A thousand things suggested to us are rejected, scorned, laughed at. This is so marked a fact in current theory, especially on the pathologic side, that I have found it convenient to use a special phrase for consciousness when in the purely suggestible condition, *i.e.*, "reactive consciousness." The phrase "conscious reflex" is sometimes used, but is not good as applied to these suggestive reactions, for they are cortical in their brain seat, and are not as definite as ordinary reflexes. Baldwin continuing says, "For my present purposes, the definition I have given from my earlier work is sufficient, since it emphasizes the movement side of suggestion. The fundamental fact about all suggestion—not hypnotic suggestion alone, which some of the definitions which I have cited, have exclusive reference to—is, in my view, the removal of inhibitions to movement brought about by a certain condition of consciousness, which may be called suggestibility. The further question, what makes consciousness suggestible, is open to debate. There are two general statements—not to elaborate a theory here however—which are not done justice to by any of the earlier theories. We may say, first, that a suggestible consciousness is one in which the ordinary criteria of belief are in abeyance; the coefficients of reality, to use the terms of my earlier discussion of belief, are no longer apprehended. Consciousness finds all presentations of equal value, in terms of uncritical reality-feeling. It accordingly responds to them all, each in turn,

1 Psych. der Suggestion.
2 Hypnotismus u. Suggestion.
3 Philos. Monatschrift, xxix., 1893, p. 489.

readily and equally. Second, this state of things is due primarily to a violent reaction or fixation of attention, resulting in its usual monoideism, or 'narrowing of consciousness.'"

Professor Baldwin's studies as outlined in his book, were made upon his own children and constitute the most elaborate line of research on the subject yet published, and beginning as they do with the dawn of consciousness they are specially valuable as being divested of any suspicion of auto-suggestion, the result of previous education. On this point he says, "Observation of an infant for the first month or six weeks of its life leads to the conviction that its life is mainly physiologic. The vacancy of consciousness as regards anything not immediately given as sensation, principally pleasure and pain, precludes the possibility of ideal suggestion as such. The infant at this age has no ideas in the sense of distinct memory images. Its conscious states are largely affective. Accordingly, when the reactions which are purely reflex and certain random impulsive movements are excluded, we seem to exhaust the contents of its motor consciousness.

"Yet even at this remarkable early stage, first six weeks, H. was found to be in a degree receptive of suggestion,—suggestion conveyed by repeated stimulation under uniform conditions. In the first place, the suggestion of sleep began to tell upon her before the end of the first month. Her nurse put her to sleep by laying her face down and patting gently upon the end of her spine. This position soon became itself not only suggestive to the child, of sleep, but sometimes necessary to sleep, even when she was laid across the nurse's lap in what seemed to be an uncomfortable position."

On the point as to what constitutes a suggestion we have long held that anything that suggests or conveys an idea to the sensorium is a suggestion. (*Vide* Jour. American Med. Association, Nov. 30, 1895.) In this position we are supported by Professor Baldwin also who, in discussing various sleep suggestions, says: "From the first month on, there was a deepening of the hold upon the child H. of the early method of inducing sleep. The nurse, in the meantime, added two nursery rhymes. Thus position, pats, and rhyme sounds were the suggesting stimuli. Not until the third month, however, was there any difference noticed, when the same suggestions came from other persons. I myself learned, during the first month, to put her asleep, and learned with great difficulty, though pursuing the nurse's method as nearly as possible. Here, therefore, was a suggestion, from the personality of the nurse, her peculiar voice, touch, etc., of which mention is made more fully below. At this time I assumed exclusive charge of putting H. to sleep, in order to observe the phenomena more closely. For a month or six weeks I made regular improvement, reducing the time required from three-quarters of an hour to half an hour, finding it easier at night than at midday. This indicated that darkness had already become an additional sleep suggestion, probably because it shut out the whole class of sensations from sight, thus reducing the attention to stimulations which were monotonous. I found by accident, in this connection, the curious fact that a single flash of light would often put H. immediately to sleep when all other processes were futile. In her fifth month I despaired one evening, after nearly an hour's vain effort, and lighted the gas at a brilliant flash unintentionally. She closed her eyes by the usual reflex, and did not open them again, sleeping soundly and long. I afterwards resorted to this method on several occasions, carefully shielding her eyes from the direct light rays, and it generally, but not always succeeded. Shortly after noticing this in the columns of *Science* (Feb. 27, 1891), I heard from a prominent psychologist that his wife could confirm the observation from experience with her own children.

"In the following month (sixth), I reduced the time required day or night, to about a quarter of an hour, on an average. In this way I found it possible to send her off to sleep at any hour of the night that she might wake and cry out. I then determined to omit the patting, and endeavor to bring on sleep by singing only. The time was first lengthened, then greatly shortened. I now found it possible (sixth to seventh month) to put her to sleep, when she waked in the dark, by a simple refrain repeated monotonously two or three times. In the meantime she was developing active attention, and resisted all endeavors of her nurse and mother, who had been separated from her through illness, very stubbornly for hours, while she would go to sleep for myself, even when most restless, in from fifteen to thirty minutes. This result required sometimes firm holding down of the infant and a determined expression of countenance.

"At the end of the year, this treatment being regular, she would voluntarily throw herself in the old position at a single word from me, and go to sleep, if only patted uniformly, in from four to ten minutes. This continued through the second year, even when she was so restless that her nurse was unable to keep her from gaining her feet, and when she screamed if forced by her to lie down. The sight of myself was sufficient to make her quiet, and in five minutes, rarely more, she was sound asleep. I found it of service, when she was teething and in pain, to be able to thus give her quiet, healthful sleep."

The Dictionary of Psychologic Medicine says: "Suggestion in its widest sense may be defined as an act by which an idea is introduced into and accepted by the sensorium. Every idea is transmitted to the brain by a sense organ, but it does not, however, become a suggestion unless it is accepted, and this acceptance often takes place by reason of the tendency to credence inherent in the human mind. The idea may be transmitted directly by the suggested speech to the brain as a direct suggestion; or, again, it may be created by the brain in consequence of an impression received — indirect suggestion. In the latter case psychic individualism comes into play, so that the same impression may give rise to different suggestions, because each brain-reaction in its own peculiar way transforms the impression differently. The first impression is the germ of the suggestion, and is elaborated by the fertile mental soil. The suggestion having been made, and the idea accepted by the brain, there then follows a centrifugal phenomenon—every suggested idea which has been accepted tends to become an act—*i. e.*, sensation, visual image, movement, action, passion, etc., or in other words, every cerebral cell stimulated by an idea stimulates those nerve-fibers which are to realize this idea. This is the law of ideo-dynamism, as we call it. No one has understood this law better, and illustrated it by more numerous examples, than Dr. Hack Tuke in his

'Influence of the Mind on the Body.' The idea thus may become a sensation—*e. g.*, the idea of having fleas causes the sensory phenomenon of itching. The idea may become an image—*e. g.*, hallucinations during sleep and when awake. The idea may become a visceral sensation or organic action—*e. g.*, the administration of bread-pills as a purgative, vomiting by a substance believed to be an emetic, etc.; or the idea may become movement or action—*e. g.*, table-turning and the phenomena of thought-reading are based on this fact."

Foster's Encyclopedic Medical Dictionary gives the following definition: "The act of suggesting; the thing suggested: Hypnotic suggestion; the process by which an hypnotized person is made to accept a hint or statement, although it may be unfounded, and to act accordingly."

It will be observed that both Tuke and Foster raise the point of credulity in the hypnotic state. It is this very condition of childlike faith found in hypnosis that makes that state so favorable for the presentation of suggestions. Born of our life experiences we build up in our minds certain conceptions of our body, its functions and its diseases. In most instances they are crude and imaginary, but nevertheless they are real to us. It is strange how these self-developed ideas dominate our after existence, many times to our serious physical injury. This is also true of our conceptions of our material environment, so much so that sometimes I feel like saying that the thing perceived is to the perceiver only what to him it appears to be.

In the hypnotic state these self-constituted pictures of persons including our own selves, and things are to a very great extent set aside and a childlike condition of mind established. The mind becomes, as it were, a clean sensitive plate for the reception of all concepts or ideas that are brought within the range of its vision, provided the ideas suggested do not antagonize the individual's conception of right and wrong or directly endanger his physical welfare. While it is true that we do not fully comprehend the *modus operandi* by which suggested ideas are carried out, yet we do know that physical, intellectual or moral experiences, in order to influence mental states, must find recognition within the sensorium. Otherwise they are inoperative. It is not, however, essential that they come within the grasp of consciousness, as some hold, in order that they become causal impulses. This is shown by the results of post-hypnotic suggestions that are made in the hypnotic state with total amnesia upon awakening. Such suggestions are often carried out in the waking condition after an indefinite lapse of time. Then again, we only hear a fragment of the unending song of weal and woe and catch but a passing glance at the panorama of printed matter that flows constantly from the jaws of the unnumbered printing presses, that form such important factors in our daily experience. Neither do we apparently take cognizance of the on-rushing tide of humanity that sweeps by continually, but nevertheless it all goes to make up our individual environment and has its molding influence upon our lives.

An idea, sensation or experience that once comes within the grasp of our sensorium, consciously or unconsciously, remains ever after to influence our bodily functions and actions in life. Changes in consciousness are reflected in the domain of the physical whenever the circumstances or conditions are propitious for their production. Time will not permit to enter into the discussion of the modifying influences of preëxisting states of consciousness upon new perceptions; permit me to say, though, in passing, that the latest thought acquisition has to pass through the test of digestion and assimilation much as does organic matter in the physical body, before it finds its place among recognized mental states.

The intimate relationship existing between mental states and physical conditions is only to be understood by a close investigation from the standpoint of psychology. Biology, except to reveal the mechanism, has thrown very little light upon the subject, by reason of the fact that biologic processes, to a greater or less extent, annihilate the vital element in nature by the methods necessarily used in its investigation, consequently the only rational manner of approaching the subject is from the side of psycho-physics, which let us proceed to do.

Impulses arise as the result of central nervous activity that is generally sub-conscious in character, although back of this unconscious cerebration there may lie a sensorial experience. All function, conscious and unconscious alike, has its inception in the sensorium. Our personality, physiognomy and bodily form as a whole is but the visible expression of this subtle, all-pervading, central force. Tendency and desire constitute the mainspring of all function and exert an irresistible influence upon form as well. "As a man thinketh in his heart, so is he," is as literally true of the physical as it is of the moral nature. By tendency is meant the hereditary influences, both physical and mental, which undoubtedly have their direct influence upon volition.

In the main the will may be classed as an inhibitive force, and as such it serves an excellent purpose in nature by regulating desire which might otherwise run away with the organism were it not thus restrained. According to Schopenhauer,[1] "emotion and feeling are states of the will and include all conditions of apprehension from mere wishing to the intensest passion." Volition is the outward expression of desire coupled with belief in the attainability of the object desired. Motion and emotion are distinctly separate experiences, yet we find them closely related in life; in fact, the only way that emotions can rise into the realm of the conscious is through the objective or physical organism, for they are undoubtedly subjective characteristics. The intimate inter-relationship of the subjective and objective parts of man's nature forms a most intricate study over which much contention has arisen.

Ladd, with whom our investigations lead us to agree, says, in his "Philosophy of Mind:" "The dualistic theory is the popular and only justifiable metaphysics for the investigator who wishes to confine himself as closely as possible to the scientific study of either mental phenomena or the phenomena of the physical sciences. It is the only intelligible and defensible conclusion of a critical metaphysics as applied to the study of the real relations of body and mind." "The ordinary objections to the dualistic view of the real relations of body and mind have reference to certain differences in conceptions of the nature and application of the principle of causation." "On this point the opponents of dualism are wont to criticise its adherents for their view of the interaction of these two alleged

[1] Fourfold State and Will in Nature.

substances." "The word interaction may be used appropriately enough to describe under one term all relations in reality between the body and mind, if only clear and consistent conceptions as to the meaning of the word be formed and maintained."

The more radical school of evolutionary psychologists, perhaps best represented by James, of Harvard, holds to the theory of a "mind dust" and says "that if evolution is to work smoothly, consciousness in some shape must have been present at the very origin of things." While I am willing to admit the reasonableness of the latter part of the proposition, I do not see any reason for claiming a "nebular" origin for mind or intelligence upon such a premise. It would seem more rational to hold to the theory of superiority and preëxistence of intelligence, which in this instance would represent mind, and claim that it finds expression in nature, body, as an essential part of it; molding, modifying and using it to suit its own purpose, and when finally done with it casting it aside as a worn-out garment.

Individual intelligence is a matter of growth based upon personal experiences rising out of special environment. This intelligence is not a *de novo* product of highly endowed matter, because even the lowest forms of life present some degree of intelligence, but in its higher manifestations it is the outgrowth of two forces working conjointly for the upbuilding of a more perfect organism. The first principle, therefore, to be laid down as offering a working hypothesis as to the probable channel through or by which suggested ideas may be made to assume definite form in action or activity of bodily function, is to be found in the reciprocal interdependence of body and mind. We learn, as children, of our ability to perform certain acts by finding ourselves involuntarily performing them. Indifferently it may be at first, but action once born, we go on voluntarily, improving upon our first efforts until a certain degree of perfection is finally acquired. Some one has said that confidence, or faith, is born of the knowledge of having once successfully performed an act.

In the main, voluntary function is performed within the realm of consciousness, but what of so-called involuntary function? Hypnotic experience is rapidly convincing experimenters in this field of psychologic investigation that there is really no such condition as involuntary function, but that which passes for such, is only so because of the lack of knowledge of how to induce a condition of voluntary activity in any particular organ or tissue. Any attempt to discuss this phase of the question leads to the consideration of the nature of causation and the principles that underlie the inception of any given chain of movements or series of bodily functional activities, to which let us now turn our attention with the view of determining, as far as possible in the limited time at our disposal, how the mind operates upon the body in health and disease.

I have already alluded to the interdependence of mental states and bodily conditions, and indicated the fallacy of having one theory for the principle of causation of mental states and an entirely different theory for the phenomena of bodily function. We speak of the former, mental states, as being caused, influenced and determined by the latter, therefore if the law of interdependence be true we should not hesitate to speak of mental states as causative agents in determining bodily conditions, within certain limitations. Favorable physical conditions are a prime necessity for the highest state of functional development. Diseased conditions of the mind invariably cause disease of the body by perversion or inhibition of normal functional activity, but it is not our intention to enter into this part of the subject any further than is necessary in order to establish the channel of action in diseased conditions and point out the probable line of procedure necessary to establish healthy function when once it has been disturbed, by calling to our aid the active coöperation of suggestion, attention and desire as dynamic forces of the mind.

Nature has beneficently arranged her plans so that all necessary function is pleasurable and, in the main, performed within the realm of unconsciousness. Whenever any function comes prominently into the field of consciousness so as to fix itself in the attention, it is in serious danger of becoming diseased. It is neither comfortable nor safe for the working of any bodily function, except under the direction of a skilled physician, to come under the influence of the attention for any considerable length of time. This danger will be more fully appreciated when it is known that attention is the offspring of the emotions and consequently embodies motor phenomena. It, attention, therefore may become a serious vital depressant or hyper-excitant, and the converse is also true, that rightly directed it may be made a powerful stimulant to increased functional activity, and thus aid in the restoration of healthy function.

Ordinarily attention is an effect and not a cause, and nature has so ordained it; otherwise it might be made to hold on to some one function (persistent idea) to the exclusion of all others, and thus act to the detriment if not the fatal injury of the organism as a whole. The highest achievement of volition conceivable is the fixing, by force of the will, a disagreeable object or function in the attention and there keeping it continuously until ideo-motor impulses have arisen. In such instances the fact is plainly demonstrated that attention is an effect with motor impulses and under the control of the will of the individual. The will in this instance operates by inhibition and suggestion operating through the will tends to fix the attention on one object or set of ideas, consequently making attention its basis of operation.

Attention may be divided, for convenience of study, into two forms; natural or involuntary and educated or voluntary. The first is exhibited by all animals, man included, and is the lowest form of this force. It is the form also that has to do with most bodily functions. The second form, educated attention, is the higher of the two and to a very great extent is confined in its manifestations to educated man and a few of the domesticated animals. The power of attention is in a direct ratio to the intelligence or intellectual attainments of the individual, irrespective of genera, species or sex, and depends upon the action of the mind for its maintenance and is therefore essentially a motor phenomenon acting through the muscular system. It may become an inhibitive force when so directed by the mind as well as a progressive power. Healthy function, as we have indicated, is a pleasurable habit, or should be, and in its natural performance belongs to the realm of involuntary unconscious activity. This is shown by the bodily habits of dumb brutes and uncivilized man. In the gratification of their animal desires

and the performance of necessary bodily function these respect neither times, places nor persons. The same may be said of the infant offspring of civilized man and household pets in general. Not until they have been taught by experience do they show any sense of the fitness of things. Even in those commonest of functional activities—micturition and defecation. Necessity and the frequent calling of the attention to the ethics of the matter finally, if the individual is possessed of any degree of intelligence, places these functions on the voluntary list and brings them under the domain of voluntary attention, thus demonstrating that voluntary attention is a child of education, the product of civilization.

Now, if compulsory education can be made operative in the above instances and in many others, had we time to recount them, it stands to reason that if the means of enforcing or directing the attention could be known for each and every function, voluntary functional control in healthy organs could be established at all times and also reëstablished when suspended provided the sensori-motor tracts had not been abolished by disease processes. I believe that the day is not far distant when so-called involuntary function will be superseded and that man will be able to bring all his organs under subjugation to his will. The heart and uterus have hitherto been classed as involuntary organs, but psychologic investigations in the domain of hypnosis have demonstrated that they are amenable to suggestion to a greater or less extent in susceptible subjects, and if this is true in certain cases it goes to show that if the right line of procedure were adopted, that their control might be made universal to the great advantage of the individual in the treatment and prevention of disease. The rapid advances made in the study of physiologic chemistry within the past few years has thrown much light on the nature of function, and it now remains for experimental psychology to point out the means for its control. The law of nature is in harmony with a constant tendency toward restoration when once discord or disease exists.

With all that has been said and may be said, truthfully or otherwise against psycho-therapeutics, no physical injuries can be laid to its door, which is more than can be said of any other specific line of treatment. I say specific because where it is applicable, no drug can be more certain in its results. It has its limitations just as any other therapeutic agent, and its advocates do not put forth claims for it as a "cure all," but do strongly urge its use in its proper sphere. Suggestion is a positive force and a direct causative agent in the control of functional activity and a most useful therapeutic agent in the restoration of healthy function when once it has been disturbed by any cause, except wasting disease that has destroyed the organ itself, in which case no agent can do more than relieve the distress, and in this phase of treatment suggestion stands without a rival. Beginning as an empirical practice, even as more material medicine did, in many instances psycho therapeutics is rapidly reaching a scientific basis in Europe and to some extent in this country. It has been my good fortune to have had the opportunity to look into the methods of its advocates abroad to a considerable extent and I have become fully convinced of its efficacy in the treatment of certain pathologic conditions. It is true that up to the present these have been largely in the nature of neuroses, but with the rapid advance in our knowledge of the nature of function through researches in physiologic chemistry and experimental psychology I look forward to a much wider field of usefulness for this natural remedy of perverted function. Let me therefore for a few moments call your attention to the probable line of its application.

As we have before seen, all function has its inception in the sensorium and any derangement in this center, either functional or organic, is liable to find expression in disordered functional activity. Diseased mental states, however, are much more common than we are wont to think, because they do not show as such directly but are often times reflected in different parts of the system. The emotions, fear, grief, anger and hate have long been known as having a marked effect upon the human barometer and should receive careful consideration at the hand of the general practitioner. Fear is especially most subtle and lasting in its influence. Many cases might be cited where fatal results have been produced through fright, and on the other hand, joy is also said at times to kill. The quickest way to effect cures in bodily ailments arising from emotional causes is to go directly to the seat of the disease, the mind, and disabuse it of its hallucinations by appealing to its understanding rather than to the organs, which only reflect the central disease. It is generally well to treat urgent symptoms from the standpoint of general therapeutics because most patients have been brought up with the material idea of the potency of drugs, consequently the strongest suggestion that can be made under such circumstances is the administration of some medicament with the action of which he is more or less familiar, the idea being to create the quickest and firmest mental impression possible. But every physical suggestion, even if it is only in the nature of a placebo, should be accompanied by verbal suggestions. Many a case has been relieved by similar lines of treatment and a permanent cure established by continued suggestion directed toward the restoration of healthy function. There is hardly a diseased functional condition to which the human body is prone that may not be directly benefited, if not permanently cured, by the aid of suggestive therapeutics; not only this but many organic lesions are impoved, indirectly, by controlling the vascular supply and inhibiting destructive metabolism until vital processes may be restored.

Pain may be thus inhibited, a fever lowered and the pulse controlled. Nervous dyspepsia is often permanently cured. Also neuropathic affections, including hysteria, insomnia and paralysis, have been cured. The various forms of nervous prostration are specially amenable to treatment by suggestion. Chorea is easily handled; epilepsy controlled as by nothing else and dysmenorrhea cured. Organic diseases of the nervous system are improved indirectly by relieving the reflex symptoms and thus doing away with the strain upon the organism as a whole. Stammering, in cases where there are no physical lesions, which are seldom found, readily succumb to suggestion. The extended field of reflex neuroses are benefited by suggestion and nearly all the disagreeable symptoms of rheumatic affections relieved. Alcoholic and other forms of inebriety, including tobacco and other vicious bodily habits in general, are successfully treated in most all cases. Perver-

sions of the sexual instinct are most happily handled by suggestion. Melancholia and paranoia in general form a fruitful field for its application.

Suggestion may be administered in the waking state, but the happiest manner of presenting it is in the hypnotic state, because in that state there exists the special form of passivity which is most conducive to the highest receptivity of suggestion. After a patient has been hypnotized several times this method is dispensed with and suggestions made in the waking state. By reason of the fact that the subjective mind is incapable of inductive reasoning, it is necessary that the successive steps to be pursued in the treatment of any given case should be specifically outlined at the beginning of each sitting in order that the best results may be attained. This rule is equally applicable to suggestive treatment in the waking state, as such methods are based on pure psychologic grounds and tend to secure the greatest degree of confidence in the line of treatment adopted and best operates to secure the establishment of ideo-motor and ideo-dynamic impulses in the restoration of healthy function.

The phenomena of perverted functional activity have long been before us, the fullest application of the cure is yet to be made, for as yet we have only caught a glimpse of the boundless possibilities of suggestive therapeutics coupled with a judicious use of specific drugs. Bernheim says: "It is a physiologic law, that sleep puts the brain into such psychic condition that the imagination does accept and recognize as real the impressions transmitted to it. To provoke this special psychic condition by means of hypnotism and cultivate the suggestibility thus artificially increased with the aim of cure or relief, is the rôle of the psycho-therapeutics." Couple with this a careful scientific explanation of the functions of the disordered part and the specific line of action of any drug in aiding nature in the cure of the condition, and an ideal line of treatment is established. While suggestive therapeutics is not a new subject, it has only within the past few years been placed upon anything like a scientific basis. With the advance in our knowledge regarding the physiology of function through physiologic chemistry and psychology we are becoming better prepared to direct it. The power of the imagination has long been called upon to assist in the cure of diseased conditions. Lack of knowledge as to how the special functions of the body produce results has prevented the intelligent use of this agent in the past. History is, however, full of the miraculous cures of all manner of disorders. The strong hold that faith cure and Christian science have gotten upon the people, witnesses the power of suggestion in the treatment of disease.

Suggestive therapeutics, like all other lines of treatment, has its limitations, else final dissolution could be abolished. The first limit is lack of faith in the complete efficacy of the remedy. We stop short of success in many things in life by reason of our inability to persist to a finish. This is not always the result of lack of faith, but is, many times, a physical defect. Poor human nature becomes exhausted, and we give up the ghost, literally as well as figuratively. There is a limit to the resistive quality of protoplasm just as positively as there is a point where cohesion in the molecules of metals fails, and yet it goes without dispute that the will has saved the life of many a man by carrying him over the crisis. Physicians all recognize it in the treatment of disease.

In conclusion, I desire to say that I am a firm believer in the value of suggestion in medical practice, and that experience, based upon years of scientific study in the phenomena of function, leads me to earnestly advocate the use of hypnotic suggestion alone in the treatment certain forms of disease and its general use as an adjunct to already accepted therapeutic measures.

100 State Street.

A SIMPLE METHOD OF DRESSING FRACTURES OF THE EXTREMITIES. AN AUXILIARY TO THE BANDAGE.

Read in the Section on Surgery and Anatomy, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY JOHN EPH. LINK, M.D.

TERRE HAUTE, IND.

My object in this paper with demonstration, is to present a simple, effective and convenient method of dressing injuries of the extremities, especially the lower, whether of fracture as the paper is headed or dislocations, sprains or contusions and lacerations of muscle or tendon, everything indicating rest of tissue; a dressing embracing the principle of rest without restraint; a simple auxiliary to the bandage.

I hope to be able to demonstrate at some future time that all progressive tendency to displacement from reflex irritation can be avoided by placing the muscles in a state of rest by simply encasing the limb in an easy environment.

The bandage of old, well worn muslin in successive layers comes as near meeting these indications as any other and with nack can be made almost, if not quite, as effective in soft even cushioning as with the cotton batting and much more retaining.

The device that I have adopted is the thin shavings of birch wood used in commerce for packing tubs and buckets, which I here present; and as you will, I think, readily comprehend enables one to lay the bandage equally as smoothly and is a safe-guard, against their being easily displaced; a most desirable consideration where it is so desirable, as in cases of fracture, to maintain the parts in a fixed position for a considerable length of time. The advantage of this over the plaster dressing is two-fold, first, ventilation, the admitting of free air and free exhalation from the body, as we have markedly here the advantage in irrigation and washing of limb and dressings without removing the covering. The bandage and splints are susceptible of being washed clean from all fouling of secretions; even the skin made so in bathing through the covering either with hot or cold water, as may be preferred, in a few minutes time, by continuous irrigation. After a thirty minutes' washing the dressing will again dry in a little longer time, say in one hour. The special advantage that I have found in the use of the shavings of wood over zinc tin, is that there is just sufficient roughness in their surfaces to make a firm cohesion with the bandage when applied wet, and more or less pliable alike whether wet or dry, and in their extreme thinness, easily fitted, by fraying, to the irregularities of the limb, protuberances and depressions.

You will notice in the illustration I present you that the spreading is easy and graceful, fitting over the enlargements and that the overlapping at points of narrowing is not bungling; and further with a pair of blunt scissors which you may carry in your vest pockets, the parts of segments can be clipped away so as to avoid even this small amount or irregular thickening if desired, and at the same time not interfere with the utility of the splint, and as layer after layer can be sandwiched with the consecutive layers of the bandage we can easily so shift the pieces as to compensate in the one for the deficit of the other, and when after the limb is once so environed we have lightness and strength combined a perfect retention with a minimum part of cumberous restraint to the injured tissue. There will be also a lack of the feeling of arbitrary force as in the more cumbersome dressing and, as I think you will at once comprehend, a better physiologic reparative condition.

Excuse me, if I here may seem to impose upon your time and patience in suggesting a further thought,

As applied on an artificial limb for demonstration before the session.

that with the interwoven splint and lines of the roller bandage circular, diagonal and longitudinal, up and down the axis of the limb, that the changing of any part of your dressing to the extent of weakening the support or adding to the discomfort of the patient by fulling in cords drawing or pressing from thickening, as is liable to be the case in the cotton under the plaster, or of the plain roller bandage, without stiffening. You will find after weeks of wearing of the shavings that your dressing, bandage and everything else is as smooth and perfect as the hour you first adjusted it.

My experience in observation is that there will be, in no instance, that stiffness of joint or shrinkage in the muscles as is apt to be the case with the more stiff and arbitrary enveloping of the limb, as in plaster or silicate dressings. There will be, at no time, during the time of applying this dressing any danger of losing the proper control of the injured member, as from sudden stiffening nor delay of hardening, as in the use of plaster of paris.

The nature of the stiffening from non-friableness and cohesiveness of the wood and muslin as above, is such that if timely looked to can be changed a little here or there, more or less. You will, I have no doubt, be surprised to learn, in some of these efforts at changing, and appreciate the firmness with which even a small piece or mere splinter, it may be, will remain in its place and thus be assured of the reliability of the method. When you have finished with a few layers completely surrounding the limb, you can lift it with impunity, changing from place to place with the least danger of displacement of the fragment and a minimum of discomfort to your patient. I can only assure you that I have frequently dressed a compound fracture of the leg with loss of substance of tibia and fibula of several inches, with perfect results in the normal line and length. The parts were kept healthy and clean by irrigation or washing for weeks, and until repair was perfect, without changing.

ASEPSIS AND ANTISEPSIS IN OTOLOGY.

BY J. HOLINGER, M.D.

CHICAGO.

The application of the principles of asepsis in all their details has brought great progress in general surgery, in hygiene and in the particular branches of gynecology, obstetrics and ophthalmology; but in some other departments of medicine much is still to be done, before the ideal condition desired by the friends of asepsis will have been attained. Among these latter it seems to me that otology must be included, and that as regards it, the greatest number of scientists underrate the value and misunderstand the necessity for the strictest asepsis. Of course in large operations the instruments are boiled, the patient is cleaned, and as a rule the operator's hands are more or less carefully disinfected. But between this and a complete, consistent and thorough asepsis there is a wide difference. The principles of asepsis should be carried out in otology in the routine examinations of the ear, and especially in the seemingly unimportant details of ambulatory practice. A little reflection will show that hardly anywhere is strict asepsis of more value than in ambulatory practice. Except in cases of very small children we have to use instruments in every examination, and to use them in parts of the body normally covered by only a very tender epidermis, parts that are not accustomed to nor able to endure irritations and that hence are extremely vulnerable. Furthermore, there is no physician who comes so much into contact with putrid and virulently infective material as the otologist. Yet it must be admitted that there are many otologists who do not acknowledge the necessity of asepsis in their department. Their view is not based upon the absence of ill results in their cases, because such results do exist though they are not always readily recognizable and their recognition demands an experienced eye. Even when recognized, there is often lacking in those who are responsible for them the courage to admit them either in public or in private.

If a confinement case be managed improperly and uncleanly, the evidences of infection will appear within a few days at the very spot where it occurred

and a violent form of sickness results. In that case there are hundreds of widely open lymph channels to carry the infection into the blood; but in diseases of the ear the avenue of infection is less apparent and the process is slower, since it takes place through minute openings in the bone. A violence done to any soft part with an infected instrument will show its effects at the very spot within a few days in the form of an acute inflammation, but in otology the place, the time, the manner, the where, when and how of infection are entirely different from what we expect. This is proved by a few examples. Who would expect an erysipelas of the face to originate in a minute injury made by an unclean Eustachian catheter on the mucous membrane far back in the nose? Yet precisely such cases are not infrequent. Again, it would seem hardly possible that a middle ear suppuration of twenty years' standing and ending in necrosis, cholesteatoma, deafness, cerebral abscess and death should have been due to the use twenty years earlier of an unclean ear speculum or probe used by a doctor, or of a hairpin used by a mother in cleaning her baby's ear. Yet such is the origin and history of cases that occur not infrequently in practice. The explanation becomes clear to any one who will follow up the results of bacteriologic examination of aural secretions. It has been established by the independent researches of many investigators that the pus of acute otorrheas contains as a rule only one species of bacilli or cocci and only exceptionally any streptococci; whereas in chronic cases these latter are usually present. In other words, *acute infections of the ear are due to a single species of microörganism and heal quickly; while chronic otorrhea is due to a mixed infection with streptococci.* Hence the force of the old saying: "As soon as you treat (with non-sterilized instruments) an acute suppuration of the ear, it becomes chronic." No more apt vehicle for mixed infection can be conceived than an ear speculum if it is not properly disinfected, for when used in a suppurating ear its lumen is certainly soiled by the pus and when applied to the next patient's ear the infectious material is carried inward by the probe and cotton. Thus a chronic otitis is generated which insidiously destroys hearing, and perhaps after the lapse of years even imperils the victim's life. Not less frequent is infection of the soft parts of the external meatus through imperceptible and scarcely avoidable excoriations made by unclean specula. Sometimes the whole meatus is filled with pus, and this a careless examiner may press into and massage into the tissues. The infection will manifest itself either in the form of a general inflammation of the auditory canal or in a local furunculosis. It will not endanger life nor will it last for years, but it causes much pain, and by depriving the patient of sleep and appetite may injure him seriously.

Beside these forms of infection which remain localized, unclean aural instrumentation may be also a means of introducing chronic general poisons, such as those of tuberculosis and syphilis. Many otorrheas are tuberculous, and they may be so without there being any other tuberculous affection present in any part of the patient's body. Cases are recorded of general miliary tuberculosis following a tubercular osteitis of the temporal bone. In the case of syphilis, the sequence can be traced out more directly and more surely. A number of cases have been published of syphilitic primary lesions within the nose and doubtless many more have *not* been published or have *escaped observation*. The statement may seem exaggerated, but I believe that it furnishes an explanation for some obscure cases of syphilis without any visible scar of a primary infection on the whole body. Some practitioners may shake their heads and smile at these views and go along in their old dirty ways. So did others when Pasteur and Lister published their principles and results. Time will prove the right. Certain I am that when legislation deals fully with the permissible and the criminal acts of physicians, it will devote a chapter to avoidable infections.

Antiseptic solutions, such as carbolic acid, etc., are generally not thorough enough for disinfection. They serve rather to lull our consciences. Therefore I would state the following practical rules for aural work:

1. Every instrument should be so constructed that it can be easily cleaned and examined.

2. Before every examination the instruments (speculum, probe, catheter, middle ear instruments) should be sufficiently boiled, and immediately after use they should be washed in cold water, so that the pus, mucus and blood may not coagulate and dry on them. Of course, it goes without saying that the hands must be kept clean according to the general rules of asepsis.

A recent article mentions a handy way of sterilizing the cotton. After being attached to the probe it is dipped into an alcoholic solution of boric acid, and then held in a flame till the alcohol is burned out, the boric acid preserving the cotton from burning.

The carrying out of these principles involves much trouble, time and expense, but they should not be spared in private and especially in *dispensary practice*, where so many cases, chronic, acute, specific, etc., pass through a rapid examination. The benefit may not be expressed in numbers, but it exists and is worth attaining.

HOW TO SECURE ASEPTIC LABOR.[1]

BY DOWLING BENJAMIN, M.D.
CAMDEN, N. J.

It was a bright day for women when the leaders of scientific investigation in the medical profession announced this discovery that the infectious fevers were caused by minute organisms, called germs or pathogenic bacilli; for it was only by the discovery of the cause of child-bed fever that we were enabled to prevent its occurrence.

To show the importance of this subject I may simply quote you a few figures. Taking New York alone, from 1886 to 1887 there were 3,342 deaths incident to child-bearing. Of these deaths 1,947 were due to child-bed fever, or the infection to the lying-in period. (See Pepper's System of Medicine, vol. 1.)

Fully half of the deaths, therefore, that occur at the confinement period are due to infection, septicemia, pyemia and from blood poisoning, caused by fever germs getting into the system through the abrasions caused by parturition. And you must also remember that aside from any other lesion, there is always after every confinement a large, raw surface left on the interior of the womb by the separation of the afterbirth, which is one of the most dangerous fields for the growth of diseased germs and their ready entrance into the woman's system.

[1] Extract from a lecture by Dr. D. Benjamin, Obstetrician at Cooper Hospital.

For the proper and successful care, therefore, of a mother at this important period of her life, it is of the greatest importance that you not only understand but apply the principles of asepsis. Since the alert members of the profession have thoroughly comprehended the importance of this subject, child-bed fever has been so rapidly diminished in frequency as to arouse the hope of making a case a rare curiosity.

My own experience in this matter, during a practice of nearly twenty years, in which I have endeavored to apply the principles of antiseptic practice, has been that I have had but one case of puerperal fever and that fortunately recovered.

How then shall we proceed to secure our patient against the dangers of sepsis?

Call upon your patient at least once after having been engaged and explain to her the importance of this subject and, as well as you can, briefly the principles involved. Then direct her to make the following preparations:

1. Keep clear, if possible, from all contagious and infectious diseases.

2. Avoid sores (wounds included) and especially erysipelas.

3. Warn her to advise you of any abnormal symptoms, such as headache, dizzy spells, swelled feet, etc., which might presage albuminuria or other dangers.

4. Tell her to have on hand as soon as the first symptoms of labor begin, or before if possible, two or three gallons of sterilized water (either boiled or distilled) in a sterilized boiler or pitcher, properly covered from the dust. This sterilized water must not be cooled by adding cold, unsterilized water, a thing that unskilled attendants will be very apt to do unless you watch them. Even the baths that a patient takes before or after confinement should be in sterilized water, or at least aseptic water, and since many cities take their water supply from streams in which their sewage is emptied this is difficult to do unless the infected water be boiled. You actually infect patients who might be aseptic by giving them a bath in such water as is supplied to many of our cities.

5. All water used in the lying-in room must be sterilized. Also the hands, or anything, can be washed much cleaner in a stream that is being poured from a pitcher, than if they are dipped into a basin containing the dirty water in which they have been washed, even though no discoloration can be seen in the water.

6. Everything to be used about the patient and bed in the way of clothing, etc., must be washed, boiled and ironed, wrapped up from the dust in a paper and put away to be ready for use when the time comes. (The conditions present and the antiseptic preparations are essentially the same as you would expect to have in a great surgical operation.)

7. She must have at least one dozen aseptic pieces of muslin, about fifteen inches square, boiled, washed and ironed (an old sheet torn up will do), wrapped up in paper and put away to be used for wiping away the discharges, for wash-rags, napkins, etc.

8. One large pad about one yard and a half square, made of cheese cloth that has been boiled in water containing a small quantity of soda and stuffed with new cotton, or what is better, absorbent cotton. If ordinary cotton is used it will have to be baked for an hour to secure sterilization. About a pound and a half of cotton will be enough, although two pounds would not be too much. This is to place under the patient during confinement, first, second and third stage, and must be removed soon after the first stage to be replaced by a lighter one, also sterilized. Everything if the least bit soiled must be removed from the patient, bed and child promptly, lest culture-fields be formed for germs.

9. One sheet of impervious cloth, about a yard and a half square, to be put next to the mattress for its protection.

10. One maternity binder, about eighteen inches wide and long enough to go around the patient, sterilized.

11. One piece of sterilized soap (hydronapthol) or carbolized.

12. One new sterilized syringe, "Household No. 3" or "Fountain" will do.

13. Two-ounce box of antiseptic cosmoline or sweet oil.

14. One skein of sterilized silk floss.

This much preparation I have always been in the habit of ordering my patients to make and is in the reach of those in the most ordinary means. These things should all be wrapped up properly from the dust, so that they may all be found without confusion when the time comes. For a complete and perfect outfit which could be inclosed in one neat box, I would suggest the following. Though a little more expensive, it should be gotten up by a manufacturer of antiseptic supplies, put up in a neat package, and would be a great convenience to patient, nurse and doctor.[2] Nay, I feel warranted in going further, and stating that the adoption generally of the practice herein suggested and urged will introduce an era in obstetrical practice marked by a lower death-rate than that of any preceding period of practice.

THE BENJAMIN MATERNITY OUTFIT OR OBSTETRIC ANTISEPTIC CASE.

1. Two aseptic sponges.
2. One card No. 14 sterilized silk.
3. One-half ounce of salicylated cotton.
4. One half-curved needle.
5. One-half dozen sterilized safety pins.
6. One dozen aseptic cloths about fifteen inches square.
7. One dozen antiseptic absorbent pads.
8. One large aseptic absorbent pad one and one-half yards square.
9. One maternal binder, sterilized.
10. One cake sterilized soap.
11. One jar sterilized petrolatum.
12. One sterilized Fountain syringe.
13. Two clinical charts (Wilson's) for mother and child.
14. One obstetric chart and report (Benjamin's).
15. One impervious sheet, a yard and a half square.

The articles in this collection to be used as follows: The aseptic sponges may be used to cleanse lacerated or bruised surfaces in mother or infant.

The sterilized silk to be used for tying the cord, and together with the surgeon's needle may be used to stitch up any lesion of the perineum, and may sometimes save the patient and the doctor a great deal of trouble.

The salicylated cotton will be used to apply to the navel.

[2] If placed upon the market.

The needle for any lacerations that may occur during the parturition.

The safety pins may be used for the maternal binder, and also for the child.

The aseptic cloths are to be used to absorb discharges during all stages of labor and for washing purposes, and for tampons if need be.

The antiseptic absorbent pads, one and one-half yards square, are placed immediately under the patient or under the sheet which has been sterilized by boiling and ironing for the occasion, and may be pinned or tacked to the sheet or to the impervious mackintosh beneath.

The maternal binder to be placed around the patient after delivery in the usual manner.

The sterilized soap, made especially from pure castile and imbued with naphthol and boracic acid, is used for all the ordinary purposes of the soap, and is perhaps one of the best combinations that can be used for ordinary purposes.

The sterilized petrolatum is used in the place of lard, which on account of its dangerous impurities should not be allowed in the lying-in room.

The sterilized Fountain syringe is to be used for ante-partum and post-partum, vaginal or uterine douches.

The clinical charts should always be started at the beginning of labor, if not before, for the mother, and for the child as soon as practicable after birth.

The obstetric chart and report gives the physician not only a good record of the case, but the information necessary for making his official report to the public authorities. It can be filled up by the nurse at her leisure and will save the physician much of the usual delay in obtaining the necessary information.

The impervious sheet, one and one-half yards square, is made of gum cloth and is to be placed next to the mattress for its protection and under the large absorbent pad and sheet, to which it may be pinned or tacked, and after the confinement is over will be found exceedingly useful to spread under the infant to protect the mattress. In cool weather it should be placed under the sheet.

We might add to this outfit to make it more complete, one dozen of corrosive sublimate tablets, containing seven and three-tenths grains each, so that the nurse and physician may sterilize their hands before touching the patient or the outfit. One dissolved in a quart of warm water makes a solution of 1 to 1,000.

Caution.—As they are exceedingly poisonous their use must be accompanied with great care and strictly in accordance with the instructions of the attending physician. They must be kept out of the way of children, and solutions made from them carefully guarded and thrown away as soon as use is finished, to prevent being mistaken for drinking water. These solutions of corrosive sublimate must not be kept in any vessel used for drinking purposes.

And we might also add as the seventeenth item one ounce of saturated solution of boracic acid, with which the baby's eyes should be thoroughly washed out immediately after delivery.

The foregoing I have designed especially for private practice.[3] In the maternity department of the Cooper Hospital, which is under my charge, some slight modifications I have necessarily made in this outfit so as to adapt it to hospital use. By this careful preparation and its proper use we will generally be able to avoid that unfortunate and fatal affliction of motherhood, puerperal fever. In the lying-in room the nurse should be the picture of neatness, cleanliness and pattern of aseptic practice.

What a contrast to this preparation and picture which I have just presented to you, is the situation a physician so often meets with; too often.

The following is the form of the obstetric chart and report:

OBSTETRIC CHART AND REPORT.

No. . . . . Date . . . . . 18 . . .
Physician in attendance. . . . . .
Nurse . . . . . .
MOTHER.
Maiden name. . . . . .
Age . . . . . .
Residence . . . . . .
Nativity . . . . . .
Number of preceding children. . . . . .
Number by this marriage . . . . . .
Number of children living. . . . . .
CHILD.
Male . . . . . Female . . . . . Color. . . . . .
Name . . . . . .
Weight . . . . . .
Presentation . . . . . .
Position . . . . . .
Time of birth . mo. . . . da. . . . hr. . . . m. . . . 18 . .
DURATION OF LABOR.
First stage . . . . . hr. . . . . min. . . . . .
Second stage . . . . hr. . . . . min. . . . . .
Third stage . . . . hr. . . . . min. . . . . .
Total. . . . . .
ASSISTANCE.
Kind. . . . . .
Cause . . . . . .
FATHER.
Name . . . . . .
Age . . . . . Nativity . . . . . .
Occupation. . . . . .
Remarks. . . . . .

(As devised by Dr. Benjamin.)

SCIENTIFIC CHARITY.

Read at the meeting of the Physicians' Club, Dec. 30, 1895.

BY BAYARD HOLMES, B.S., M.D.

PROFESSOR OF SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO.

There are two distinct ideas pictured by the word charity, and the notions which these ideas convey have little intrinsically in common. In one sense charity stands for fellowship, fraternity, good will, love, human sympathy and justice. In this sense charity is good and will always be of unexceptional application. It is in this sense that Paul and Portia used it in those well-known and much-abused paragraphs.

In its second sense, charity embraces all those ideas represented by alms, almsgiving and all those institutions, organizations and systems employed in giving gratuitous relief to the poor. It is in this latter sense alone that charity is used by me in this discussion.

In this sense there can be but a limited application of the terms scientific charity. Scientific charity is really no charity at all, because science and reason direct all the energies of society not to the alleviation of the suffering of the poor, but to the prevention of poverty. Science insists upon the fact which true humanity has always believed, namely, the ability of the earth and man's labor to produce enough and more

[3] I have been of late in the habit of ordering such of my patients as could do so, to purchase it at the antiseptic supply stores, put up according to the above directions.

than enough for all. Therefore there need be no poor. There should be no almsgiving. Still the fact remains. Poverty and nakedness and hunger are present in spite of too much wheat and corn, too much coal and oil, too much wool and cotton, too much lumber and iron, too much labor and machinery, too much power and too many labor-saving inventions. In fact just as the products of the earth, of the hands of men, of machinery and of the devices of genius multiply, just in that proportion does poverty, idleness and wealth increase. And since the poor are with us almsgiving is necessary, just as much so as calking is necessary to the ill-built ship. It is perhaps worth while to inquire into the source of the various groups that demand alms.

The first to receive gratuitous aid and support are the very old and the very young. At both ends of life man must depend upon the product of others' labor and the services of others for support and comfort, and this seems reasonable and just. This helplessness of the old and young seems to be the foundation motive of the family unit. Only rarely is the community called upon to care for the old or young except on the dissolution of the family unit to which they originally belonged. When the maintenance of the family unit is not guarded by the community then this group of dependents increases. Some one may ask how scientific charity directs alms to be given to this group. In this as in many other public matters Australia has given the best answer. That is a country without an orphan, without an orphan asylum and without an old people's home. All the dependent babies, children, old women and old men are adopted by the community, and with proper supervision they are boarded out in homes in the colonies where their presence is welcome, where they have the cheer and the comfort and love of home life. In these homes, too, the young are prepared for a useful manhood and womanhood. Scientific charity blushes at the sight of the imposing architecture of the orphan asylum and the old ladies' home no less than at five thousand homeless children on the streets of Chicago.

The second to demand alms are those who suffer from disease, from injury or from mental or physical defects. As medical men we are most interested in this group, and naturally they are our special care. As physicians and surgeons we attend the sick gratuitously in all public hospitals. No other profession gives so valuable a public service without pay. But we rarely consider the motive which most promotes that symptom of social disease known as hospitalism. This mania for hospital building breaks out wherever injustice and oppression most prevails. When the severities of feudalism pressed hard upon the people, Europe was dotted with hospitals. Now that commercialism and capitalism are crushing all manliness out of Americans, hospitals are filling the land. The real motives of hospital building are these: To furnish a place into which to shove off unwelcome servants, friends and relatives when they are sick; to furnish a means of altruistic activity for women who suffer from this constant exercise of the cruelty, inhumanity and injustice of modern society, and to help the employer to beat down the wages of his men. If an employer is obliged to pay for labor a dollar a day before a hospital is built in his community, he can cut down that amount an appreciable per cent. as soon as an institution is established. Hospitals and dispensaries lower the standard of life in a community in which they are built and the medical man who serves in hospitals without pay is taking the bread from the mouths of professional brethren and doing the laboring classes the greatest injustice. It is obnoxious to the high ideals of our profession to suppose for a moment that any true physician coöperates with spread of hospitalism, knowing its real significance. Yet there is a growing class of physicians who look with equal disfavor upon the professional hospital builder and the professional hospital physician. The one works on a commission of 20 per cent. of all he can get out of the rich and the other takes all he can detract from the physicians who endure the heat and burden of the day.

It is often said "capital takes all the risk" but with the growth of machinery this adage must give way. In the United States in 1892 there were 821,000 men employed on railways and 2,500 of them were killed outright, and 28,000 injured. These injured men and their families demand alms largely because men are cheaper than better material equipment. The one can be had for a dollar or two a day, the other requires interest and a sinking fund.

The deaf and blind furnish shining examples of the defectives who require alms. Three million dollars were expended from the public purse for the care and education of these unfortunates in the year 1892. It is the opinion of all experts who have spoken on this point that more than three-fourths of this blindness and deafness could be prevented by a better medical education and a better medical supervision and yet while the general government alone spends three-quarters of a million a year in study of the diseases of swine, not one-tenth this sum is expended by all the States together in teaching medicine, not to say in medical research.

In the third class come those who demand alms, not because they are infirm, defective or diseased; not because they are unable or unwilling to work and produce but because all opportunity of productive industry is denied them. This is the great group shut out from work because they have committed the unpardonable crime of producing too much—the great army of the unemployed. This group out-numbers many times all the others put together. The benevolent employer of labor smiles with satisfaction when he is called upon for a contribution from his private purse to carry these fellow citizens over a hard season of idleness. He knows they are the most efficient instrument of beating down wages, of lowering the standard of life, and teaching all labor the arts of thrift.

He contributes gladly from his own or better from the public purse and immediately figures on a 10 per cent. reduction of wages and a great increase in his donation to the Armenian Mission or the home for orphaned cripples. That there should be such a condition of affairs as this in a county with over-production of all that is good to eat and wear and enjoy is a sad commentary on a hundred years of American democracy. Almsgiving to this group only poultices the sore which is eating the heart out of our country, and fast reducing us to the conditions of France a hundred years ago.

In the fourth group come those for alms who find charity pays better than any profession or trade into which they can gain access. Here we find the men and women who make begging a business and conduct their affairs on the same principles that govern

all successful business now-a-days. They do not stop begging when they get enough to supply the necessities, decencies and even luxuries of life. They go right on begging and begging and begging as long as it pays better to beg than to do anything else. They are not in business for their health nor are they doing a missionary business. They are there to win.

All that one can say for this group is that they are perfectly practical and consistent. To be sure they are not reformers. They simply take things as they are.

In conclusion, let me make the following epitome: Charity, almsgiving, is an opiate now much used in treating humanity for that fell disease of which it suffers. This disease is known as competitive production. The three humors of this disease are rent, interest and profit. These humors are produced by a parasite known as special privilege. When the disease reaches its height, it is manifested by a blush of idleness, poverty and misery which is soon followed by an eruption of benevolent societies, asylums, institutions, hospitals, dispensaries, jails and penitentiaries. In the treatment of this disease narcotics are dangerous. Almsgiving, suppression of facts and refusal to investigate have all proved fatal. These and all other methods of symptomatic treatment should be removed and the parasite should be attacked with the sharp edge, rational justice.

BACTERIOLOGIC RESULTS FROM MECHANICAL FILTRATION.

[Abstracts from a Report made by E. B. Weston, C. E., of Providence, R. I., upon Experiments made by Natural Filtration and in the use of the Morison Filter for Period of Nine Months.]

Read at the Meeting of the American Public Health Association, Denver, Colo., October, 1895.

BY GARDNER T. SWARTS, M.D.

SECRETARY OF STATE BOARD OF HEALTH, RHODE ISLAND.

PROVIDENCE, R. I.

At the last meeting of this association at Montreal the statement was made in the report of the committee on water supplies that no data had been available to show that filtration by the so-called mechanical methods was successful in removing bacteria. The writer at that time referred to experiments which had been made in the city of Providence, R. I., in order to determine this question for the purpose of establishing a plant capable of filtering 15,000,000 gallons daily if the experiments were successful.

The figures showing these results were not at that time available, and as they have never been published and as no experiments of a similar character have been made, it seems desirable to place these facts before the Association, inasmuch as many municipalities are agitated over the advisability of introducing the so-called natural or sand-bed filtration or mechanical filtration.

The mechanical form of filter used in the experiments was of the type in which quartz or sand is used as a supporting bed to a film of precipitated coagulant or fixative of organic matter, produced by the introduction into the water, before filtering, of some chemical such as iron or alum; a filter which is also cleansed by means of a reversed current of the water passed through the filter assisted by the use of a rake made to revolve in the bed of the quartz while the washing is being done.

The filters used in this line of experiments were two of the natural sand-bed form imitating the usual filter bed. The mechanical form was represented by one of the New York Filter Company's filters and one of the so-called Morison filters. After the first seven months the sand filters were discontinued, it having been satisfactorily ascertained that the length of run was much less than the mechanical filter before the bed became clogged and the rate of flow in the natural bed was but 30,000,000 gallons per acre in twenty-four hours, while the mechanical filter was run at the rate of 125,000,000 gallons per acre in twenty-four hours. The efficiency of removal of bacteria was not as high, and the results variable, either as the result of cracks in the filter or from some unknown reason. Although both of these natural filtration beds were constructed exactly alike, the results from the second were much poorer than the first. When the natural bed was transformed or assisted by the addition of alum, thus converting it into a mechanical filter, the removal of bacteria was increased to nearly the same as on the Morison filter, but the length of the run was correspondingly decreased.

The sand used in the natural beds was a natural river sand, not over sharp, while the sand used in the mechanical filter was crushed quartz having sharp edges.

In the beginning of the experiments the New York filter gave such varied and unreliable results that its use was abandoned, while the so-called Morison filter was continued in use during the whole series of experiments, which lasted for a period of about ten months, the working of the mechanical parts of the filter being perfectly satisfactory and the results obtained being successful.

The filter bed used in this mechanical filter was two feet ten inches in depth, supported upon a base of iron with circular perforations of about 4 inches in size, which were covered with screens. The crushed quartz used was the "effective size" of 0.59 millimeters. The filter was washed by a reverse current which caused the quartz to boil. The agitation and friction of the particles were increased by means of a rake with long teeth which revolved about a central column in the filter; the rake penetrating the bed by a screw motion from top to bottom.

From the various kinds of coagulant or precipitant used basic sulphate of alumina was selected as being the most satisfactory and effective and was used in all the experiments mentioned. The amount of alumina used was $\frac{1}{2}$ grain to the gallon of water filtered, a lesser quantity failing to satisfactorily remove the organisms, while the amount of $\frac{3}{4}$ or one grain per gallon did not increase the removal of the bacteria, while the efficiency of the filter was greatly decreased by reducing the amount of the flow through the filter bed.

The alumina was applied in a free flow at the beginning of a run by pouring into the filter, as the water entered, a pint of the coagulant containing about 911 grains of sulphate of alumina for an average flow of 128,000,000 gallons per acre. The solution was made by adding one part of the alumina to six parts of water; as a result of this addition there forms a white flocculent precipitate over the surface of the grains of quartz and is the actual medium through which the filtration takes place, the quartz serving merely as a supporting bed or sieve. It required about six minutes to form this layer. When applied at the rate of a drop at a

time and not in a "free flow" it required about a half an hour before the filtering layer would be formed. As soon as the filtering layer was formed the alum solution was dropped in continuously during the run from a regular stop at the rate of a drop a second. The effect of the presence of this layer was to reduce ths head or pressure .28 of a foot for 128,000,000 gallons per acre. The depth of the water above the bed at the commencement of the run was nine inches; the average length of the run was about eighteen hours.

Under these conditions it was determined how long after the commencement of the run the filtering ability was at a maximum and also the capacity of the filtering media to remove organisms and also the possibility of removing organisms foreign to river water and simulating pathogenic bacteria in their life history. In this last experiment the Cruikshank bacillus and the bacillus prodigiosus were used, since from their pathogenic properties they could be readily distinguished from the water bacteria.

For an understanding of the proportion of bacteria found in the applied water and the number to be found in the filter water, table No. 3 of the report is here appended.

As a result of the whole series of experiments the totals shown in table No. 9 will give an idea of the averages. In consideration of this table it must be remembered that the introduction of only one result, which may be far below the average, will readily reduce what would otherwise be a most favorable average, to a lower point. This one result might occur from a temporary contamination of the effluent pipes at the time of collecting the sample, and which might not represent the exact results of filtration.

TABLE NO. 3.—FILTRATION EXPERIMENTS.—MORISON'S FILTER.

Growth of about ninety hours, of water bacteria in the sample of applied and filtered water, which were taken at the same hour; which was one hour or more after the water commenced to flow from the filter.

Date.	Gallons of Water Filtered per acre per Twenty-four Hours.	Bacteria per Cubic Centimeter.		Per Cent. of the Applied Bacteria Removed.	Average Percentage of the Applied Bacteria Removed.	Grains of Sulphate of Alumina Added
		In Applied Water.	In Filtered Water.			
1893						
July						
20	125,000,000	2,000	11	99.5		0.75
21	122,000,000	9,477	16	99.8		0.90
Oct.						
3	125,000,000	905	6	99.3		0.60
4	128,000,000	610	2	99.7	99.5	0.58
5	131,000,000	4,002	25	99.4	(By totals, 99.6)	0.55
17	125,000,000	6,175	26	99.6		0.57
27	122,000,000	9,700	41	99.6		0 61
30	128,000,000	1,700	7	99.6		0.56
31	131,000,000	400	9	97.8		0.59
Nov.						
1	132,000,000	15,112	19	99.9		0.61
2	123,000,000	6,950	26	99.6		0.81
3	122,000,000	9,400	50	99.5		0.84
4	132,000,000	3,400	63	98.1		1.20
9	125,000,000	2,200	26	98.8	99.2	0.60
11	125,000 000	3,650	25	99.3	(By totals, 99.5)	0.82
COMMENCED TO USE THE BACILLUS PRODIGIOSUS.						
Nov.						
23	120,000,000	15,850	218	98.6		0 60
24	132,000,000	7,600	364	95.2		0.59
Dec.						
2	128,000,000	4,900	190	96.1		0.75
4	128,000,000	4,475	91	98.0		0.60
1894						
Jan.						
2	132,000,000	2,150	94	95.6		0.85
3	137,000,000	2,000	118	94.1		0.84
4	134,000,000	2,275	44	98.1		0.85
5	130,000,000	1,925	60	96.9	96.1	0 82
8	130,000,000	2,375	184	92.3	(By totals, 96.9)	0.58
CEASED TO USE BACILLUS PRODIGIOSUS.						
Jan.						
9	130,000,000	1,850	54	97.1		0.60
10	134,000 000	800	28	96.5		0.84
11	130.000,000	750	20	97.3		0.61
12	132,000,000	350	52	85 1		0.81
13	132,000.000	600	36	94.0		0.72
15	134.000,000	925	88	90.5		0.84
16	134,000,000	375	44	88.3		0.58
17	130,000,000	2,150	64	97.0		0.82
18	134,000,000	1,500	62	95.9		0.54
19	136.000,000	1,450	80	94.5		0 83
20	130,000.000	2,800	58	97.9		0.72
22	132.000,000	3,350	62	98.1	94.6	0.85
23	132.000,000	2,300	64	97.2	(By totals, 96.3)	0.80
WASHED FILTER BED WITH CAUSTIC SODA.						
Jan.						
24	128,000,000	2,100	6	99.7		0.60
25	125.000,000	2,225	18	99.2		0.82
26	128,000,000	4,650	54	98.8		0.58
27	128,000,000	4,875	72	98.5		0.58
29	128.000,000	1,575	82	94.8	98.2	0.59
30	130,000,000	1,400	28	98.0	(By totals, 98.5)	0.58

During the application of the cultures of bacillus prodigiosus in large quantities suspended in the nutrient media, the numbers of the common water bacteria materially increased in the effluent, the particles of quartz becoming covered with a slimy brownish deposit. Unsuccessful efforts were made to cleanse the quartz of this growth by steaming and boiling the quartz for one hour. Finally on the application of a solution of one pint of caustic soda to twenty-four parts of water and steaming, the normal white color of the quartz returned. The efficiency of the filter was raised by this process of cleansing from 92.8 per cent. to 98.8 per cent. As to the mooted dangers attending the use of alum in the applied water and which is held up as a warning by the opponents of mechanical filtration, this much may be said in reference to this series of experiments:

While it was necessary to add half a grain of sulphate of alumina per gallon of water filtered in order to obtain the most satisfactory results, yet upon comparison by the most careful chemical tests of the water applied to the filter and that of the effluent, there was found to be less alum in the filtered water than in the river water itself.

Inquiry from numerous manufacturers using alum as precipitant in various quantities in excess of the amount used in the experiments, revealed in no instance any incrustation or scaling in the boilers where such filtered water had been used. Communications with the varions boiler insurance companies elicited no report of scaling where such water was used. There is no recorded instance where alum-treated water as a drinking water has produced any ill effects upon the consumers.

This work was done by order of the City Council of the City of Providence and under the direction of a commission consisting of the Superintendent of Health, the City Engineer and the Commissioner of Public Works. The immediate supervision of the operation was under the supervision of Dr. C. V. Chapin, the Superintendent of Health and a member of this Association, while the application of the various tests was made under the direction of Mr. Edmund B. Weston, C. E., from whose compilations and reports these abstracts have been taken. Most of the bacteriologic work was done by the writer.

Inasmuch as the writer, as well as every person connected with the experiments, commenced the investigation with the firm belief that successful mechanical filtration was not possible from a bacteriologic view, it must be stated now, after examination

of these figures, that mechanical filtration under these conditions can be firmly indorsed.[1]

The foregoing paper and table of percentages was briefly discussed, first by Dr. P. H. Bryce, who thought the facts contained therein were most valuable and that he felt personally that the thanks of the Association were due to Dr. Swarts for submitting them, and by Dr. Rudolf Gering.

THE SURGICAL TREATMENT OF AURAL POLYPI.

BY P. B. WING, M.D.
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It is the purpose of this paper to describe in a brief and concise manner the treatment which I have found most effectual for the permanent removal of those morbid growths known and described as aural polypi. Gruber defines aural polypus as a neoplasm originating in the auditory canal or in the deeper parts of the ear, which is pedunculated and consists principally of histologic elements of the soft connective tissue order. Granulations springing from a broader base are generally called polypoid proliferations. These growths have received a great variety of names by different writers, but I am of the opinion that no observer can say that this is a mucous polypus or a fibrous, but that he will find a combination of both mucous and fibroid tissue. I am also of the opinion that all polypi are at the very commencement granulation tissue and that as they grow in size they change in structure, and that they have received their classification from the tissue that happened to be most prominent in each particular case; also that the epithelium covering a polyp has the character of the tissue from which it springs until it is changed by exposure to external influences. A word only as to the cause. I believe that whenever aural polypi and granulations are found, pus is always the cause, and when we come to treatment, we should never lose sight of this fact.

I shall confine myself to the treatment of those that are benign in character and shall make no mention of the tuberculous, syphilitic and malignant.

The first step in treatment is to thoroughly cleanse the ear. There is usually a profuse discharge of fetid pus, and it is for this discharge that patients usually seek relief, for unless the growth is large, the majority of patients are ignorant of its presence. After cleansing the ear as much as possible, the next step is to make out as accurately as we can the origin of the polyp. In small growths, this is usually easy, but in large polypi, that have filled and by long continued pressure caused absorption and dilatation of the canal, this is sometimes difficult and can only be made out approximately by passing a probe around it.

After we are satisfied as to the point of origin, the removal of the growth is the next point for consideration. How shall we best accomplish it? We are all armed with an instrument known as the snare, but I believe it falls far short of filling the purpose for which it was designed. The loop is formed and adjusted to the size of the tumor, and after applying cocain, or in some instances giving chloroform, the loop is passed over the tumor and as near the origin of the growth as possible. The loop is then pulled home. After pulling the loop tightly around the pedicle, Dr. Pomeroy says that he brings the growth away by two or three jerks. Dr. Sexton says that it is often difficult to cut through the pedicle and they often have to be brought away by avulsion. I feel like making a little stronger statement and say that it is always difficult to cut through the pedicle of a large fibroma, and that I have always had to give the snare a few turns to twist off the growth. I see a reason why a snare can not be made that will work as well on aural as the Jarvis snare does on nasal polypi. After the polypus is removed, or as much of it as is possible with a snare, the hemorrhage, which is seldom severe, can be controlled by hot water or packing with absorbent cotton. I usually wait until the following day before I proceed to treat the stump. In the majority of cases, we are obliged to use some form of cautery, and in my opinion, no form of cautery is equal to chromic acid.

A small bead of the crystals is fused on the end of a silver probe and applied under perfect illumination. After applying the acid, it is well to wait a few seconds watching the effect, and then touch the spot with a little moist cotton on a probe to take up any superfluous acid. I have used chromic acid in this manner for five years in a great number of cases and have found it perfectly safe. It gives almost no pain and its action is easily controlled. A surface treated with chromic acid suppurates little and heals rapidly. After cleansing and treating with chromic acid, I apply a little finely powdered iodoform and boric acid or hydrastis and boric acid and place a pledget of cotton in the ear. The chromic acid can be applied as often as the slough separates, usually every four or five days. The ear is kept clean during the intervals by using a solution of bichlorid of mercury, about 1 to 2,000, and after cleansing and drying, applying either of the above mentioned powders. This treatment is kept up until the pedicle is destroyed and when the growth is removed, the discharge in a large majority of the cases will cease. Small polypi are usually softer and bleed more easily than the large ones. The snare is perhaps more effectual in this class of cases.

However, there are very few cases treated by the snare that do not require subsequent cauterization. In small polypi, where the point of origin can be easily seen, the pedicle may be touched with chromic acid. The acid penetrates the growth, shuts off the blood supply, and in three or four days the polypus dries up, drops off and comes away as a small, black mass. This process is painless and bloodless, has the advantage of being easily done and is very convenient in treatment of children who are afraid of instruments.

Polypoid proliferations more often spring from the wall of the canal and, I think, are dependent upon some previous furuncle. These growths are to be removed by cauterization and I prefer the acids, used with the same precautions as in other places.

There is one condition resembling polypoid proliferation, which should not be confounded with it. I refer to a swollen and protruding mucous membrane of the middle ear, which may project through a perforated drum-head and be mistaken for granulation. Such cases are made worse by the application of any form of cautery. While speaking of cauterization I have not mentioned the galvano-cautery, for while I prefer it in all nose and throat work, I must say that I consider the acid superior in the treatment of the ear. It can be applied on a small wire, which does

[1] The complete report with tables and estimates of construction will be published in the Rhode Island State Board of Health Report for 1894.

not obstruct vision. The electrode is larger, obstructs vision more and is not so easily handled. The acid in most cases is painless and can be applied without the patient knowing it.

I shall mention a few only of the drugs used in such cases. Iodoform and boric acid I have already mentioned as suitable dressings, but they have no influence over the growth of polypi. Tannic acid, alum, etc., are worse than useless. Argentic nitrate may be used to stop a discharge of pus, but I am sure that it stimulates the growth of polypi and of granulations. Hydrogen peroxid is useful only as a cleansing agent and is inferior to a solution of bichlorid of mercury. Notwithstanding all that has been said of alcohol, I believe that it has absolutely no influence over the growth of polypi or granulations, but it does lessen the discharge of pus. Injection of the growth with Monsel's solution is effective, if well done, but is painful and can be used on large polypi only. Patients will ask us if the growth will return and we ask ourselves what shall be done to prevent a recurrence.

Now, I think we are all of the opinion that suppurative disease or caries is always the cause of polypi and of granulations. It is therefore necessary to stop the suppuration and remove all necrotic tissue before we can say that our patient is cured, for polypi and polypoid proliferations will not grow in dry soil like sage brush and cacti in our western deserts, but like toadstools, they require shade and moisture, and this moisture is pus.

Let us always put in practice that old, sound surgical principle that wherever there is pus, let it out if possible and establish free drainage. If the growth returns and if the perforation is small, we should not hesitate to make it larger and when necessary remove one or more of the ossicles, thus establishing free drainage and giving us an opportunity to treat the diseased parts effectually; always remembering, however, that it is not a trifling operation, but must be skilfully performed and subsequently carefully treated, for cases of meningitis following it are not unknown and I think we are too apt to cover our failures and publish our successes.

TUMOR OF THE BRAIN INVOLVING THE OCULAR NERVES.

Specimen presented to the Medical Society of Washington, D. C.

BY CLARENCE R. DUFOUR, PHAR. D., M.D.

WASHINGTON, D. C.

Physician in Charge of Eye Department Eastern Dispensary; Ophthalmologist and Otologist to Sibley Memorial Hospital; Assistant in Eye and Ear Department of Central Dispensary and Emergency Hospital, and Instructor in Ophthalmology and Otology, Georgetown Medical College.

Mrs. H., widow, age about 56 years was referred to me at the Woman's Clinic, in the summer of 1894, on account of her eyes. Upon examination I found a complete paralysis of the muscles supplied by the third, fourth and sixth nerves, an exophthalmus and optic atrophy, all on left side. I diagnosed the trouble as being in the brain and so told the daughter who accompanied her. I could obtain no specific history. She had been operated upon some months previous for empyema of left antrum, the opening being made in the cavity of second molar tooth; there was free drainage through the nostril when I saw her. I kept the antrum well washed out with sol. boric acid and gave her sat. sol. iodid of potassium, 10 gtt. three times daily, increasing one drop daily, until she was taking 30 gtt. three times daily. Any attempt to increase this amount produced such constitutional disturbance that it could not be done. She was kept on this treatment until complete symptoms of iodism were manifested, when it was changed to 1-16 gr. bichlorid of mercury and 3 grs. potassium iodid three times daily, and continued for months with occasional intermission of a few days. No result whatever from the treatment. About the middle of the summer she began to complain of intense pain in her head, which at first yielded to anodyne treatment but which soon became constant and nothing but morphia would allay. About this time there began to be symptoms of loss of sensation on side of face and anesthesia of cornea, indicating that the first division of the fifth nerve was being implicated. This condition continued, with no abatement of the symptoms; she had periods of hallucinations, and as her daughter was obliged to work away from home, and there being no one to leave the mother with, the latter was sent to the hospital. It was thought best to reopen the antrum so as to establish freer drainage; this was done, considerable pus escaping. It was then washed out with antiseptic solution two to three times daily. An examination of the urine was made with results as follows: Amber in color, cloudy ppt., acid reaction; small amount of albumin, epithelial cells and pus were found. After operation on antrum the pain in head subsided for a few days but began again and continued with occasional periods of intermission. She was discharged from hospital in the early part of November. Her condition gradually became worse, her right eye began to show symptoms of incipient atrophy of the optic nerve and an external squint was manifested. She was able to go about until April 1895 when she had to go to bed. She grew worse, her mind wandered and word deafness became manifest. On May 3 she died. On the following morning the skull was opened and the brain removed; It was put into a 2 per cent. solution of formalin, and a few days later the examination revealed the following condition: Gumma of dura mater in the anterior part of left middle fossa; this involved by extension the left anterior temporo-sphenoidal lobe; the growth surrounded the internal carotid artery, exerting pressure on the cavernous sinus and involved the left optic nerve at the commissural origin; considerable edema of the left anterior sphenoidal lobe. A second and smaller gumma involved that part of the brain mass which constitutes the left olfactory convolution; the third and smallest lay in the angle at the right optic commissure. The bone around the first growth had lost its compact covering and had become porous; the dura was very adherent to the bone. The ocular conditions during life were cleared up, I think, satisfactorily by the findings at the post-mortem. The cavernous sinus receives anteriorly the ophthalmic vein through the sphenoidal fissure, and on its inner walls is found the internal carotid artery and the sixth nerve; on its outer wall are the third, fourth and the first division of the fifth nerve.

The pressure exerted by the tumor upon the sinus explains the paralysis of the muscles and the anesthesia of cornea, etc., this pressure together with pressure upon the ophthalmic vein, accounts for the exophthalmus by preventing the return flow of blood through the angular and ophthalmic veins into the cavernous sinus. The pressure also being exerted

upon the optic nerve in front of the chiasm, was the cause of the optic atrophy of left eye. The edema of the temporo-sphenoidal lobe, would, I think, satisfactorily explain the word deafness. The atrophy of the right eye was due to the smallest tumor in the angle of the right optic commissure. The cause of the external strabismus is somewhat obscure, as there was no implication of the third nerve on that side; my opinion is that there was pressure exerted upon this nerve in the region of the sphenoidal fissure, probably as it passed through it. The case was referred to me by Dr. Heiberger, and the post-mortem was made by Dr. D. S. Lamb of the Army Medical Museum, of this city.

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OBSERVATIONS ON CONGENITAL DISLOCATION OF THE HIP.

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Congenital dislocations of the hip are for the most part traumatic. Displacements occur also, however, through deficient development.

Any obstruction at birth, whether through malformation of the pelvis or caused by the position of the child—the breech for instance, presenting, or the child or its head being unusually large, may occasion this dislocation.

In a breech presentation the thighs are flexed upon the abdomen, so that the head of the femur presses on the posterior and inferior portion of the capsule of the joint. But in this position, the application of the slightest force in downward traction will displace the head of the bone and cause it to pass away from the acetabulum and to lie upon its brim. And lying on the border of the cotyloid cavity, extension of the limb at birth is alone sufficient to displace the head beyond the brim. The blunt hook or the finger in the bend of the thigh, to facilitate and hasten the birth, may easily thus displace the head of the bone. And, indeed, such is the result of downward traction. A sensation of sudden yielding of the limb is felt by the hand of the accoucheur, as the head of the bone is displaced from its socket, and at the same time a click is heard. At that moment the caput femoris escapes from the acetabulum, and is found lying immediately beyond the brim of the cotyloid cavity. It is only after the weight of the child has been borne on the feet, as in standing and in walking, that the head of the femur arrives at the external iliac fossa. Shortening of the limb necessarily increases as the head of the femur becomes farther removed from the acetabulum and lies upon the dorsum of the ilium, and, equally, lameness increases.

Dr. Tyler Smith informed me that such was his experience in regard to these accidents at birth.

After my essay [1] on this subject was published, I saw two cases of congenital dislocation with Dr. Tyler Smith. One was a boy, aged fifteen months, with dislocation of the left femur, and the other was a girl, aged five months, also with dislocation of the left femur. The boy was a well-developed and large child and the girl had a large head. There was not any other abnormality in either of these children. In both birth was considerably delayed; in the first by a breech presentation, and in the second by the large head. In each case reduction of the dislocation was easily effected, and there was not any subsequent displacement.

Some imagine that these dislocations are not truly congenital because they are not observed at birth, nor until efforts are made to walk. Then, if the child falls as probably he will, it is supposed that in falling he has dislocated his hip. But dislocation does not occur in this manner. And without intending to mislead, parents are apt to connect the lameness with the fall, forgetting that the child has always been more or less lame and unable to walk.

It has already been stated that children in whom this dislocation occurs are not infrequently unusually large. This was especially remarked with regard to two boys in St. George's Hospital. I admitted these boys as in-patients, each having congenital dislocation of both hips. One aged twelve years, was as big as a large boy of fourteen, and the other, aged fourteen was like a strong boy of sixteen or seventeen. So much was this the case that doubt was expressed on this question of age, and special inquiry was made, when the facts were verified. And in the case referred to by Mr. Holmes,[2] and recorded at greater length by myself,[3] in which the right femur was dislocated, the child's head was of unusual size. Also in a case where I operated with Dr. De la Cour, and where both hips were dislocated the head was enormous.

But traumatic congenital dislocation does not alone occur at birth; it may also be occasioned *in utero*. I[4] have recorded several instances where, as the result of accident and shock, spasmodic action was set up, and this was followed by dislocation and fracture and distortion.

Cruveilhier[5] has given a representation of a full-grown fetus with luxation of the heads of the thigh-bones, and with clubbed hands and feet; and he observed that the heads of the thigh-bones, as well as the cotyloid cavities, were progressing to their normal development. Also, there is found in the hydrocephalic and the anencephalic fetus every form of luxation and subluxation, together with muscular retraction in every variety.

Grawitz [6] records that in every case examined by him there was not only dislocation of the hip, but also club foot, club hands, scoliosis, ectopium abdominis, spina bifida, and other deformities and malformations present. And such is also the case with Mr. Lockwood's [7] specimens; they are malformations and deformities due to arrest of development.

In pathologic museums dislocations, occurring whether *in utero* or at birth, whether alone or complicated with fracture or distortion, with malformation or monstrosity, whether development is complete or arrested or irregular, are all treated as though they depended on a common cause; and thus much confusion has arisen and misunderstanding.

Many of these deformities are wrongly styled dislocations. Neither was the head of the femur planned to occupy an acetabulum, nor is there an acetabulum to occupy; they are malformations. And

[1] St. George's Hospital Reports, vol. i, 1866.

[2] The Surgical Treatment of the Diseases of Infancy and Childhood, p. 220.

[3] St. George's Hospital Reports, vol. i, p. 219.

[4] Medico-Chirurgical Transactions, vol. xliii, 1860. Holmes' System of Surgery, vol. iv, art. "Intra-uterine Fractures," 1864.

[5] Anatomie pathologique du Corps humain, tome i.

[6] Ueber die Ursachen der Angeborenen Hüftgelenksverrenkungen. Archiv für Path., Anat. und Phys., Bd. lxxiv.

[7] Transactions of the Pathological Society of London, vol. xxxviii, p. 303.

some of the examples in pathologic museums which are labeled "congenital dislocation," have nothing in common with this class of affection, but are results of disease, whether in the adult or in the child.

Thus I have endeavored to show that the agencies producing congenital dislocation are various, and that the conditions of the femoral head and of the acetabulum vary as the period at which dislocation is produced varies. And, since there are varieties of congenital displacements of the hip, treatment must also vary. For instance, when the child is well developed, and there is no other abnormality existing, reduction of the dislocation may be effected within two years after birth; and this period may be extended to three or four years when exercise has not been permitted. The caput femoris may then not only be easily reduced, but it will probably be retained in the acetabulum. But after this time the acetabulum becomes more or less filled up withfatty, or with fatty and fibrous matter, and retrac tionof the trochanteric muscles takes place; so that,even though the head of the femur may be drawn down, difficulty will probably be experieced in retaining it *in situ*.

The head of the femur in such cases is usually of the normal size, and it is covered with cartilage. It remains unaltered or scarcely altered in shape until ten or twelve years of age, or even later; in Mr. Canton's case the change was only slight at thirty-two years of age. Also the acetabulum may retain its depth, but it will probably be filled with fatty matter. Such is the case when dislocation has been produced at birth. When, however, dislocation has occurred *in utero* the acetabulum may not become fully developed, as in the case mentioned by Grawitz[8] where the acetabulum was not more developed than in a fetus of five months.

It is important to determine the length of time during which the acetabulum may be expected to retain its depth and cartilage and the head of the femur its size. And in illustration of this question I will refer to specimens taken from a boy 16 years of age by Fournier, and presented by him at the Société Anatomique, of which Professor Cruveilhier was president, and on this occasion in the Chair.

"The cotyloid cavity," says Fournier, "retains its form, except that the outer lip is slightly flattened; also it retains its depth and cartilage. The cavity contains a fatty substance, with which it is entirely filled." A new cavity for the head of the femur had been formed, and the head itself was somewhat flattened, but it retained its normal size, and it was covered with cartilage. There was no trace of the round ligament. Inasmuch as there was a history of a fall and subsequent lameness when the child was three years of age, M. Broca raised the question whether this was a congenital or a traumatic dislocation; and M. Legendre observed that congenital dislocation usually passed unobserved until the child began to stand or walk, and if he then fell it was supposed that dislocation occurred at that time. Whereupon Cruveilhier summed up the discussion, and expressed his opinion that neither the position of the femoral head, nor the condition of the cotyloid cavity, nor the absence of the round ligament, were characters sufficiently decisive to enable him to determine whether this was a congenital dislocation or an old traumatic dislocation—"de décider si la luxation est congénitale ou seulement traumatique et ancienne."[9]

Thus Cruveilhier, than whom no one was better able to judge, acknowledged that in congenital dislocation of the hip, even after sixteen years, the acetabulum may retain its form, depth, and cartilage, and the femoral head its size and cartilage.

I have many times found that the depth of the acetabulum was normal at various ages and up to twelve years; and having first ascertained with a needle probe that such was the case, I have proceeded to replace the head of the femur. But if there was difficulty in overcoming the force of the retracted muscles, I have divided these subcutaneously, viz., the trochanteric muscles and the adductor longus. Lying as it does, superficially, it is easy to judge of the size and shape of the caput femoris, and to know with certainty if it can occupy such a cavity as the acetabulum.

Having thus divided the various muscles at their several insertions, the head of the femur may be drawn down and firmly fixed with bandages, and with weights attached to the knee and the ankle. The head of the bone remains fixed, and there is no tendency to displacement, so that after four weeks passive movements may be instituted. In another fortnight active movements in the recumbent position are allowed to commence; and when the limb can be fairly abducted and flexed voluntarily, the patient is fitted with a suitable support, and is then allowed to stand and walk.

Fifty-two cases of this form of dislocation have come under my care during the last thirty years; and perhaps the following case will sufficiently illustrate the manner in which I have treated a large number of similar dislocations.

In April, 1895, I divided, with Mr. Henry Baker and Mr. Bailey, the trochanteric muscles and the adductor longus in the left femur of a well-developed and healthy girl 12 years of age, in whom there was not any other abnormality present, having previously probed the acetabulum to ascertain its depth. The femoral head was then dislodged and drawn down. Extension was made on the fourth day, when the wounds had healed; and the head of the femur was then firmly fixed in the acetabulum; from which there was no tendency to escape. The hip-joint was firmly bandaged and extension was kept up day and night. In the course of four weeks passive movements were instituted, and two weeks later active movements were made in the recumbent position. In twelve weeks she was fitted with a hip support, and was allowed to stand and walk. In standing both limbs were of the same length; and although there was slight yielding of the limb, there was no displacement in walking. In July the child walked firmly and without limping; and when recumbent she could flex the thigh entirely on the abdomen.

Where the acetabulum is so much filled up that it is impossible for the caput femoris to find a lodgment, I have with a specially curved gouge removed so much of the deposit as I could subcutaneously, to deepen the cavity sufficiently to retain the head of the femur; but I have not done this through an open wound, after the manner of Professor Lorenz, of Vienna, and of Dr. Hoffa, of Würzburg; nor have I found any difficulty in working the gouge subcutane-

[8] Op. cit.

[9] Bulletins de la Société Anatomique, 1855, p. 267.

ously. But where the gouge has to be used the joint movements are less free, and there is a tendency to ankylosis.

Notwithstanding, this operation is a great gain when the dislocation is single or, after good motion has been established on one side, when dislocation is double. When consolidation has taken place, and a new articulation has been formed, as in Fournier's case I never interfere; but at any period before consolidation is complete, the head of the femur may be drawn down after the trochanteric muscles have been divided, and with or without the gouge, the head of the femur may be safely and permanently restored to the acetabulum.

AN ANTISEPTIC TABLET FOR NASAL WASH.

BY JOHN EDWIN RHODES, M.D.
CHICAGO.

The necessity of a cleansing and an antiseptic wash for the nasal cavities is indicated in a variety of conditions. In cases of simple chronic catarrhal inflammation in which there is an excess of mucus which gathers and forms crusts in the cavities, often due to a slight nasal obstruction and accompanied with an unpleasant "catarrhal odor," the indications for treatment are often chiefly fulfilled by some antiseptic wash which will effectually dislodge the secretions and counteract the odor. In another class of cases instead of obstruction, we find an enlarged passage, atrophy of the membrane, and sometimes of the turbinated bones. Here even an exaggerated expiratory blast of air is inefficient in dislodging the secretion. This rapidly dries upon the surface of fine membrane, decomposes and causes pathologic changes in the tissues, and the patient gives as one of the most distressing features of the condition the bad odor that accompanies it. Here there is an indication for an agent that will both cleanse the nasal passages, disinfect them and stimulate the mucous glands. After operations of various kinds, as the removal of exostoses, the cauterization of the membrane, the removal of polypi, tumors, etc., an agent is needed that will render the parts thoroughly aseptic until healing has taken place. In operations about the fauces, the naso-pharynx, the pharynx, the tonsils, it is always advisable to use some strongly antiseptic solution as a spray or gargle for a few days succeeding the operation.

To meet such indications as have been briefly enumerated above the following formula has been found to possess the requisite agents in suitable proportions. The tablets can be employed in all conditions, and are unirritating if used in the strength of one tablet in from one-half to two-thirds of a glass of lukewarm water. In cleansing the nares it is much to be preferred that the patient should draw the water gently through the passages from the hand than to use any kind of a douche, as the latter in very many cases is improperly used, and the liquid is carried through the nasal passages with such force as to do local damage and perhaps reach the middle ear through the Eustachian tubes and set up a middle ear inflammation. This formula has been thoroughly tested by use in a large number of cases in private practice in the last two years, and is more satisfactory than any agents I have ever used for like purposes.

It has been put up in the form of compressed tablets, which, as prepared by Gale & Blocki, are readily soluble, and in every way satisfactory. Each tablet contains the amount indicated in the formula.

DR. RHODES' NASAL TABLETS.

Potass. chlorate	$2\frac{1}{2}$ grs.	15
Soda bicarbonate	10 grs.	60
Soda chlorid, C. P	10 grs.	60
Soda salicylate	5 grs.	30
Soda biborate	5 grs.	30
Thymol	$\frac{1}{8}$ gr.	007
Eucalyptol	$\frac{1}{4}$ min.	015

MYRINGITIS ACUTA—MYRINGITIS BULLOSA.

BY FRANK ALLPORT, M.D.
PROFESSOR OF CLINICAL OPHTHALMOLOGY AND OTOLOGY IN THE MINNESOTA STATE UNIVERSITY, PRESIDENT OF THE MINNESOTA STATE MEDICAL SOCIETY, ETC.
MINNEAPOLIS, MINN.

Miss M. C., age 20; left ear; general health not good; has had naso-pharyngeal colds for two or three weeks, accompanied by a hard cough. Nov. 11, 1895, at about 11 P.M., experienced suddenly a severe earache, which continued with increasing severity till the morning of November 12, when I was consulted. I found the view of the membrana tympanum obstructed by three large bullæ situated as follows: One at the upper anterior quadrant, extending down nearly to the inferior extremity of the handle of the malleus. This was large and deeply congested, the redness passing on to the meatal wall, as it joins the drum-head.

Another was situated at the junction of the drum-head with the posterior meatal wall, and was more on the latter than the former. This was also much inflamed and large. Another blister occurred exactly at the inferior extremity of the malleus, and was smaller than the others—quite white and not inflamed. A cluster of prominent blood-vessels extended from this to the posterior blister. The bullæ were separate and distinct, for I punctured all three, as each one required a separate incision to liberate its individual serous fluid. I was careful not to penetrate beneath the dermic layer of the membrane, and a thorough inflation of the middle ear with the catheter and air bag after the puncture was made evidenced an intact condition of the underlying membranic coats. The hearing in this ear was somewhat but not markedly reduced. The case was seen by Dr. W. N. Porteus, of this city, at my request.

November 13, I found the blisters all thoroughly collapsed; some membranic inflammation, no pain, slept well, hearing almost completely restored. November 19, drum-head fully restored to a normal appearance and hearing perfect.

THE DEGENERATE EAR.

Read in the Section on Neurology and Medical Jurisprudence, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY EUGENE S. TALBOT, M.D.
FELLOW OF THE CHICAGO ACADEMY OF MEDICINE.
CHICAGO.

(*Concluded from page 58.*)

Figures 10, 11 and 12 illustrate the different stages of excessive and arrested development of the helix. For the purpose of giving a better description of the stigmata of the ear I have divided the ear into upper, middle and lower third. Figure 10 shows arrest of the helix as far up as the upper third, while the upper part is well developed. Figure 11 shows the helix normally developed. Figure 12 illustrates the lower

third normally developed, while the upper middle and upper third are excessively developed.

When the whole or a large part of the helix is arrested the ear is usually (not always) larger and the antihelix is excessively developed. On the other hand, when the whole helix or larger part is excessively developed the ear is usually (not always) small and thick, with arrested antihelix. When the ear is at or near an angle of 90 degrees the helix is usually quite or entirely arrested or very thin. When it is small and at an angle of from 10 to 45 degrees it is usually well developed and thick. The root of the helix is sometimes arrested. When this is the case

Fig. 10.

Fig. 11.

it is lost in the floor of the concha. When normally developed it produces a distinct ridge extending across the floor and when excessively developed it divides the concha into unequal parts. In 465 criminals at Pontiac, there were 236 arrested, 55 medium, 174 excessive; 181 folded, 48 medium, 236 open. Root of helix, normal 157, abnormal 308. In 1,041 criminals at Elmira, there were arrested 771, medium 52, excessive 206; 294 folded, 747open. Root of helix, 907 normal, 132 abnormal.

The most singular deformity of the helix is the tubercle of Darwin (Fig. 13), which is a little blunt point projecting from the inwardly folded margin or

Fig. 12.

Fig. 13.

helix. When present it is developed at birth and according to Prof. Ludwig Meyer, more frequent in man than in woman. Figure 13 shows ear and tubercle taken from Darwin's "Descent of Man."[3] These points not only project in toward the center of the ear, but are often a little outwards from its plane, so as to be visible when the head is viewed from directly in front and behind. They are variable in size and somewhat in position, standing either a little higher or lower; and they sometimes occur on one ear and not on the other. They are not confined to mankind, for Darwin observed a case in one of the spider monkeys (ateles bulzebuth) in the Zoological Gardens. Dr. E. Ray Lankester tells of another case in a chimpanzee in the garden at Hamburg. The helix obviously consists of the extreme margin of the ear folded inward, and this folding appears to be in some manner connected with the whole external ear being permanently pressed backward. In many monkeys which do not stand high in the order, as baboons and some species of macacus, the upper portion of the ear is slightly pointed and the margin is not at all folded inward; but if the margins were to be thus folded, a slight point would necessarily project inward toward the center and probably a little

Fig. 14.

Fig. 15.

outward from the plane of the ear, and this Darwin believes to be their origin in many cases.

The hundreds of these cases observed by me have always been found among the neurotic and degenerate. As according to Darwin, "when present it is developed at birth," it therefore must have formed when the ear was developing before the fourth month of fetal life. At birth, however, it is not as prominent as it will become when the ear has obtained its full development, although prominent enough to be recognized.

Prof. Meyer finds these tubercles more common among men than women. This is in accordance with the general rule in evolution that women are truer to the type than men. According to Meyer, it is due to

Fig. 16.

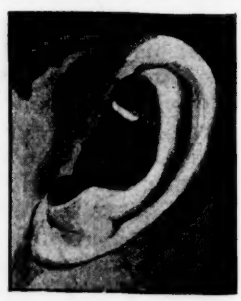

Fig. 17.

arrested development of the helix. In my experience, it is due to both excessive and arrest of development of tissues. I have observed not infrequently both conditions upon the helix of one ear. Tubercles may be located upon both ears or upon one. They also vary in number, one only, or sometimes three, even four have been noticed upon one ear.

The position of these tubercles depends entirely upon the shape of the helix. If the helix is turned toward the center of the ear, the tubercles will point in that direction; if at right angles, they will stand at right angles. If the ear lies perfectly flat without a helix, the tubercles will stand in direct line with

[3] The Descent of Man, page 15.

the flat ear and point backward or upward; whether they can be observed standing in front, at the side or back, will depend upon the position of the ear to the head. Some ears stand close to the head, others at an angle of ninety degrees. The location of the tubercle upon the helix varies in different individuals. The most frequent localities, however, are at the upper border of the middle third, as illustrated by Darwin; also at any point on the helix from its origin to its insertion; again, just above and below where the root of the antihelix crosses the root of the helix in the floor of the concha. I have also observed upon the left ear of a physician, which measured 3 inches in length, 1.50 in width, and stood almost at right angles, five tubercles in the upper third of the helix, due to arrest of development. Again, one may be located on the outer border looking outward, and the other on the inner border, looking inward. (Fig. 14.)

In one family coming under observation, the grandmother has three tubercles on left ear, one at the lower border of the middle third, one above and below on the root of the helix where the root of the antihelix crosses it in the concha. A daughter has one on the root of each helix, in the concha below the point where the root of the antihelix crosses it.

Fig. 18.

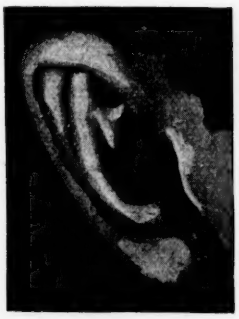

Fig. 19.

The oldest grandchild, eighteen years of age, has the same tubercles in same places as mother, and also half developed tubercles on the root of the helix above the point where the root of the antihelix crosses the helix. The second grandchild, a boy ten years of age, has a fully developed tubercle upon each root of helix below the point where the root of the antihelix crosses it, and a semi-developed tubercle on each helix just above that point. The third child (Fig. 15), a daughter one year of age, has four tubercles upon the left ear, two on the root of the helix, like grandma, one at lower border of middle third and one at lower border of lower third; on right ear two on root of helix like other side, and a semi-developed tubercle at the lower border of middle third.

It is impossible to illustrate the tubercles on the root of the helix, owing to the fact that they are situated inside the concha. Figures 13, 14 and 15 form an excellent illustration in the regicide, J. Wilkes Booth; one at the top, the other just below the middle of the helix. In Cesare Giovanni Santo, one at the top, the other at the lower third. In Patrick Eugene Joseph Prendergast, one at the locality pointed out by Darwin, the other at the lower third, near the lobule.

A young professional man, 29 years of age, is a marked neurotic; nervous temperament, suffers continually with indigestion; has insomnia; possesses a good mind, is a great reader; has full forehead, wears glasses for astigmatism; stigmata show arrest of development of the bones of the face and upper jaw; asymmetrical head; V-shaped arch; high vault; arrest of development of the lower jaw; possesses a long, narrow, handle-shaped ear, with arrest of the upper third and outer border of the helix, showing two distinct tubercles, one near the cranium, the other at the outer border as illustrated by Darwin.

A remarkable case is that of a degenerate whose left ear is 2.75 inches in length, 1.12 inches in width, possesses a tubercle at the lower border of the lower third, one at the middle of the upper third upon the border which looks downward toward the concha, and another just on the opposite side of the helix looking upward; the one looking downward is due to arrest of the edges of the helix, the other to excessive development of the outer border of the helix. From what has already been said it will be observed that these tubercles are in all stages of development from a minute point to the size of a large pea.

As stated at the outset, these tubercles are always observed among the neurotics and degenerate classes; they are due to arrest and excessive development of the helix. Sometimes there is a total arrest of the

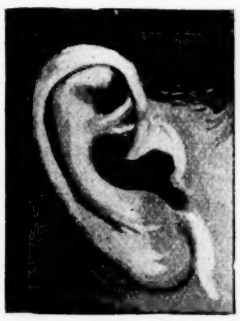

Fig. 20.

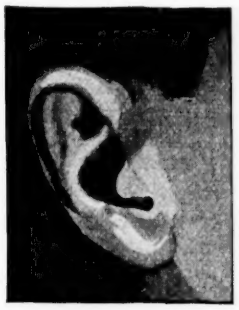

Fig. 21.

helix, giving the ear the appearance of having been cut or burned away. When these tubercles are observed upon one or both ears, marked stigmata are also observed in other parts of the head, face, jaws and body. This is nicely demonstrated in the case of Prendergast.

In the ear illustrated by Darwin, are other points which demonstrate more clearly developmental neurosis, or degeneracy, than his tubercles. Since this ear was modeled by the celebrated sculptor, Woolner, it certainly must be very accurate. The first thing to be noticed is a general arrest of development. This ear is only about two-thirds the normal size and is unusually thick. (I have already observed that when the ear is unusually large, it is also very thin; when unusually small, it is very thick.) The lobule is arrested to such an extent that it is almost obliterated. The tragus and antitragus are almost entirely undeveloped, leaving the concha unprotected. The helix is rolled upon itself, the result of general arrest. The arrest of development of the rim of the helix at two different places and its development in a small sphere, produces the tubercle. From such a degenerate ear, one accustomed to the study of degeneracy could describe the deformities of the face of the individual possessing the ear, without difficulty.

Sometimes these tubercles grow to an immense size; thus, a business man, 35 years of age, possesses

an ear at right angles, with tubercles equal in size on each ear, as large as the end of the little finger; these are located at the upper middle third. The helix is entirely arrested.

Another singular case is that in which the helix of the left ear is excessively developed. At the extreme upper border there is a large tubercle at the inner edge, looking downward; and opposite, on the upper border looking upward, is another of the same size. Both of these are due to excessive development. Another case is that of a baby 14 months old. There are four tubercles on the left ear and none upon the right. One at the upper middle third, one at the ex-

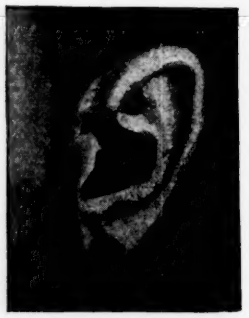

Fig. 22.

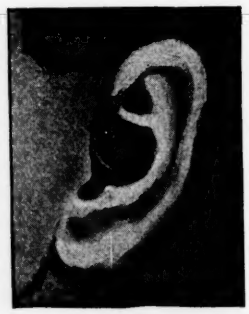

Fig. 23.

treme top of the helix, both due to arrest of helix; and two on root of helix, in the concha, one anterior, the other posterior to the lower root of the antihelix, making a groove through which it is to pass.

The same exists in a brother and sister, mother and grandmother, and not in the father of the children. They are not, however, exactly alike in all generations, or in the same generation. This is, no doubt, due to malnutrition.

According to Frigerio, the exaggerated tubercle of Darwin is seen exceptionally in normal individuals, rarely in non-hereditary insane; with an average of 36.95 per cent. in hereditary cases and of 27 per cent.

Fig. 24.

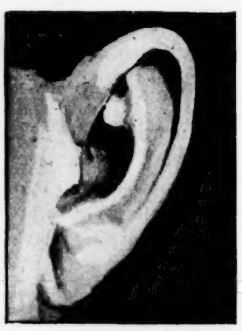

Fig. 25.

in neuropathic degenerates, and not so marked in criminals.

I have taken statistics of tubercles of 1,000 so-called normal persons, with the following results: Right 414, left 446. In 100 noted men, right 33, left 29.

In an examination of 1,506 criminals, making 3,012 ears, these were found upon upper third, right 152, left 127; middle third, right 504, left 452; lower third, right 2, left 3; none, 1,772 ears.

ANTIHELIX.

Figures 16, 17 and 18 show arrested, medium and excessive development of the antihelix. My experience has been that where there is arrest of development of the helix, the antihelix is excessively developed, and *vice versa*.

This would seem to be a natural compensation for the purpose of collecting the waves of sound. In apes the antihelix is rudimentary, thus showing that the helix is most usually developed. It is claimed by some scientists that the antihelix is also wanting in the most pronounced forms of insanity and in criminals. The following are the results of a most thorough investigation of criminals:

At Pontiac, arrested, 195; excessive, 271. At Elmira, arrested, 317; medium, 13; excessive, 722.

Fig. 26.

Fig. 27.

TRAGUS.

Figures 19, 20 and 21 show arrested, medium and excessive development of the tragus. The tragus and antitragus are most frequently malformed in the degenerate, though the helix and antihelix are more noticeable. One of the peculiar forms of degeneracy noticed in the tragus is a fissure dividing it into two distinct lobes. Sometimes it is very slight, making a long, double tragus with a slight depression in the center. Again, a little deeper, showing two tubercles, and again, two distinct organs.

In an examination of criminals at Pontiac: Arrested, 117; medium, 244; excessive, 124. At Elmira: Arrested, 534; medium, 70; excessive, 427.

Fig. 28.

Fig. 29.

ANTITRAGUS.

Figures 22, 23 and 24 show arrested, medium and excessive development of the antitragus. This organ is very frequently absent among the degenerate classes.

Examination of criminals at Pontiac shows: Arrested, 313; medium, 59; excessive, 76. At Elmira: Arrested, 693; medium, 21; excessive, 216.

LOBULE.

Figures 25, 26 and 27 illustrate long, medium and short lobule. Perhaps no part of the ear has received so much attention by scientists as the lobule. The long, handle-shaped ear (meaning, of course, the

long lobule) is a marked sign of degeneracy; the short ear, without lobule, also denoting arrest of development. Very little, therefore, is left for a normal lobule. So frequent do we find these conditions among normal individuals that, without other stigmata, either excessive or arrested lobule would be without significance. In extreme cases the lobule will develop forward and frequently double upon itself, not unlike the ears in the lower forms of animal life.

Figures 28, 29 and 30 illustrate attached, medium and separated from the face. These conditions have also received considerable weight by scientists and neurologists, as demonstrating stigmata of insanity

STATISTICS OF DEGENERACY OF THE EAR.

					Auricle.																	
					Length.									Width.								
	Number.	Large.	Medium.	Small.	1.75	2.00	2.12	2.37	2.25	2.50	2.75	3.00	.84	.75	1.1	1.12	1.37	1.25	1.50	1.75	2.25
Normal persons, right ears. . .	1,000	595	68	258																	
Per cent.		59.5	6.8	25.3																	
Normal persons, left ears. . .	1,000	561	68	372																	
Per cent.		56.1	6.8	37.2																	
Noted men, right ears.	100	62	5	33																	
Per cent.		62	5	33																	
Noted men, left ears.	100	56		44																	
Per cent.		56		44																	
Criminals.	1,506				1	33	9	9	295	930	196	33	2	2	100	275	172	824	115	3	1
Per cent.					.03	1.09	.30	.30	9.79	30.88	6.51	1.09	.06	.06	3.32	9.13	5.71	27.36	3.82	.10	.03
Insane.	443					35	1		118	208	53	28			36	110	8	237	43		
Per cent.						3.95	.11		13.32	23.48	5.98	3.16			4.06	12.41	.90	26.75	4.85		

	Helix.							Antihelix.			Tubercles of Darwin.							Lobule.								
	Development.			Form.		Root.		Development.			Upper 3d.		Middle 3d.		Lower 3d.			Attachment.			Shape.			Development.		
	Arrest.	Medium.	Excessive.	Folded.	Medium.	Open.	Abnormal.	Normal.	Arrested.	Medium.	Excessive.	Right.	Left.	Right.	Left.	Right.	Left.	None.	Close.	Medium.	Separate.	Broad.	Narrow.	Long.	Arrested.	Medium.	Excessive.
	667	13	312	325		667	325	667	627	13	352	33		378		3		605	920	74	8	554	444	13	447	33	520
	66.7	1.3	31.2	32.5		66.7	32.5	66.7	62.7	1.3	35.2	3.3		37.8		.3		60.5	92	7.4	.8	55.4	44.4	1.3	44.7	3.3	52
	532	14	435	449		532	339	582	532	14	469		78		365		3	592	865	72	17	580	421	7	429	7	565
	53.2	1.4	43.5	44.9		53.2	33.9	58.2	53.2	1.4	46.9		7.8		36.5		.3	59.2	86.5	9.2	1.7	58	42.1	.7	42.9	.7	56.5
	59		41	41		59	28	72	41		59			33				67	100			59	41		41	1	58
	59		41	41		59	28	72	41		59			33				67	100			59	41		41	1	58
	57		43	43		57	17	83	43		57		2		29			79	94	5	1	55	45		46		54
	57		43	43		57	17	83	43		57		2		29			79	94	5	1	55	45		46		54
	667	.07	380	475	48	983	440	1064	512	13	993	152	127	504	452	2	3	1008	1140	354	19	1065	465	68	736	37	711
	33.43	3.55	12.62	15.77	1.59	32.64	14.61	35.33	17.00	.43	32.97	5.05	4.22	16.73	15.01	.06	.10	33.47	37.85	11.75	.63	35.36	15.44	2.26	24.44	1.23	22.61
	296		147	147		296	119	324	149		290	77	77	174	172	3	3	222	418	25		255	188	1	287		206
	33.41		16.59	16.59		33.41	13.43	36.57	16.82		32.73	8.69	8.69	19.64	19.41	.34	.34	25.06	47.18	2.82		28.78	21.22	.11	26.75		23.25

	Tragus.			Antitragus.			Concha.			Angle.			Relation.		
	Development.			Development.											
	Arrested.	Medium.	Excessive.	Arrested.	Medium.	Excessive.	Large.	Small.	Deformed.	Right.	45°	Close.	Right Higher.	Left Higher.	Normal.
	677	38	287	728	24	256	522	156	324	38	244	723			
	67.7	3.8	28.7	72.8	2.4	25.6	52.2	15.6	32.4	3.8	24.4	72.8			
	571	33	377	684	11	306	427	235	339	39	282	699			
	57.1	3.3	37.7	68.4	1.1	30.6	42.7	23.5	33.9	3.9	28.2	69.9			
	83	1	16	83	1	16	56	16	28	4	24	72			
	83	1	16	83	1	16	56	16	28	4	24	72			
	63		37	78		22	54	29	17	2	30	68			
	63		37	78		22	54	29	17	2	30	68			
	651	314	551	1006	80	392	679	403	423	302	719	483	52	95	1359
	21.61	10.42	18.29	33.40	2.66	13.01	22.54	13.38	14.04	10.03	23.87	16.04	1.73	3.15	45.12
	337	1	107	326	1	116	269	56	119	3	34	406	2	4	437
	38.04	.11	12.08	36.79	.11	13.09	30.36	6.32	13.43	.34	3.84	45.82	.23	.45	49.32

AVERAGE.

	Length.	Width.
Children from 6 to 18 months	1.90	.96
Children from 8 to 12 years	2.19	1.06
Persons from 12 to 50 years	2.50	1.22
Paupers over 50 years, right ear	2.73	1.26
Paupers over 50 years, left ear	2.76	1.26
Criminals from 15 to 26 years	2.50	1.25
Insane from 18 to 60 years	2.50	1.25

and criminality. Like the length of the ear, no more stress can be placed upon these conditions than upon the length, without other stigmata.

In an examination of criminals, the following results are obtained:

LOBULE.								
Attachment.			Shape.			Development.		
Close.	Medium.	Separated.	Broad.	Narrow.	Long.	Ar'st.	Med.	Exc'v.
PONTIAC.								
309	163	11	334	104	33	255	12	198
ELMIRA.								
831	191	19	671	361	35	481	25	513

Fig. 30.

Fig. 31.

Fig. 32.

Figures 31, 32 and 33 illustrate ears of illegitimate children at birth. Owing to their age their mentality is not fully determinable, but numbers 32 and 33 have every appearance of idiocy.

Figures 34 and 35 show the congenital elephantine ear in monstrosities. For the purposes of comparison, the results of my investigations are given in full.

The tables show that the various parts of the ear are often not in harmony with each other.

In the study of aural relations to degeneracy, it is customary to speak of large, medium, small or handle-shaped ears without setting a definite standard for comparison. Having ascertained the average size length 2.50 and width 1.25 inches, of a given number of ears of normal persons, it may be stated that an ear which measures below 2 inches can be considered a very short ear, between 2 and 2.25 inches short, between 2.25 and 2.75 inches medium, between 2.75 and 3 inches long, and above 3 inches very long. In regard to width an ear below 1 inch is narrow, between 1 and 1.50 medium, and above 1.50 wide.

Fig. 33.

Fig. 34.

Fig. 35.

There is no means at hand of knowing what changes occur in the length of the ear at different ages over 50 years in normal persons. There seems, however, to be a gradual increase in length and width. I have noticed, casually, the ears of a number of persons on the street, and should judge that a large percentage of people possessed ears from 3 to 3.36 inches in length and from 1.50 upward in width. Comparison of the length and width of the ears of paupers, criminals and the insane, indicates that degenerates possessed much the largest and widest ears.

The statistics show that the ear is not in harmony

in its relation to its various parts, and that so-called normal individuals have just as deformed ears as criminals and the insane.

On comparison of the figures of the table it will be seen that the percentage of deformities of criminals and insane is nearly the same, and taken together is about one-half as great as the normal.

There is a somewhat prevalent theory that persons whose lobule is attached its entire length have insane tendencies. The foregoing data do not corroborate this, since in an examination of 1,000 normal persons 92 per cent. are found to have attached lobules, while among the insane only 47 per cent. was found. It follows that an attached lobule is more common among the normal than among the insane. Among criminals is found 37 per cent., and in noted men 9 per cent. for left ears, 10 per cent. for right ears.

The table shows that the tubercle of Darwin is not always found at the upper part of the middle third of the helix (Fig. 13). Tubercles, practically identical, may be found at any point on its border. These tubercles are obviously similar in appearance and due to the same causes that produce the tubercle of Darwin (arrest and excessive development of the helix). Hence, the theory advanced by Darwin that this tubercle is a rudimentary point on the ear is not sustained. In normal persons 3 per cent. of the tubercles of Darwin occur on the upper third, 37 per cent. middle third, 3 per cent. lower third, in right ears, while in criminals 5 per cent. occur on the upper third, 16 per cent. middle third, 3 per cent. lower third, right ears, and in the insane 8 per cent. upper third, 19 per cent. middle third, and 34 per cent. lower third, right ears. They are obviously more numerous upon the middle third of the helix. There is a larger percentage among normal individuals than with the degenerate class.

The left ear, however, seems to be least affected in either the normal or the degenerate. That these tubercles denote degeneracy may be admitted, but it does not seem probable that it comes under the type of degeneracy to which Darwin ascribes it.

The ear at 90 degrees is said to be a marked sign of degeneracy. The figures, however, do not bear out this claim. In normal persons this occurred in 3 per cent. right and left ears, 4 per cent. and 2 per cent. right and left ears of noted men, 10 per cent. right and left in criminals, and 3 per cent. in the insane.

In the relation of the ears to each other there is found a larger percentage of right ears higher than left ears; in criminals 17 per cent. right were higher than left and only 3 per cent. left higher than right, while in the insane 2 per cent. right were higher than left and 4 per cent. left higher than right. In the 1,000 normal individuals there were more deformities upon the right ear than upon the left. This is also true of the 100 noted men. At the time of the examination of criminals and insane these were not classified, as in the normal persons and noted men, except as to the tubercles of Darwin and the interrelations of the ears.

That the external ear as an organ is tending to disappear is shown by the feeble power of its muscles which, except in cases of reversion or special training, are inactive. Changes in the ear by themselves are merely suggestive and not demonstrative of degeneracy, except in accordance with the general rule that accumulation of defect constitutes strong evidence.

SOCIETY PROCEEDINGS.

Chicago Medico-Legal Society.

Regular Meeting, held in Handel Hall, Jan. 11, 1896.

THE PRESIDENT, DR. E. J. DOERING, in the Chair.

The minutes of the previous meeting were read and approved.

DR. F. E. DANIEL, of Austin, Texas, contributed a paper entitled

A PLEA FOR REFORM IN CRIMINAL JURISPRUDENCE,

which was read by the Secretary, DR. JOHN RIDLON, in the absence of the author.

He referred, at the outset, to a paper which he presented on "Castration of Sexual Perverts," read at the International Medico-Legal Congress, held in Chicago in 1893, in which he advocated castration of sexual perverts, and especially as applied to rapists, as being more humane, more rational, and more effective as a deterrent than hanging, and more in accord with science, progress and an enlightened civilization; not as a penalty, but as a therapeutic measure in some cases, and prophylactic in all, for the present protection of society, and as a guarantee against a like progeny to curse future generations. Incidentally the author advocated the castration of certain criminals also in this paper, and for the same reasons. In the light of the rapid and alarming increase of crime and criminals in this country, it is evident not only that there is something radically wrong with our system in dealing with crime and criminals; that our penal methods are a dismal failure, but that reform has become an imperative, pressing and immediate necessity. According to the United States census for 1890, there were in 1850, 6,737 prisoners in the United States, or one to every 3,442 of population. In 1890 there were 82,329 prisoners, or one to every 757 of population. The end and object of all penal enactments are supposed to be the protection of society against crime and criminals, and it is unfortunate that no measures are provided as a protection against this increase, principally by heredity. Nothing could testify more emphatically to the inadequacy of our system than the figures just given, nor appeal more forcibly for reform. The thinking members of the medical profession are being rapidly converted to the belief that crime is a disease: that criminals are sick persons, and that their condition calls for a more enlightened method of management. They know that many, if not most of them, are subjects of hereditary transmissions of vicious temperament, and all of them the victims of vicious environment.

The classification of criminals can only be done by medical men. When the character of the crime has been determined by the court, it would seem to be in accord with the requirements of the case and the dictates of an enlightened humanity, that there should be a commission of medical men to diagnose the criminal and prescribe the course which is best calculated to meet the demands. If it be one of the curable class, the treatment, consisting of restraint, discipline, hygiene, education, environment and healthy labor should be such as to induce a determination never to offend again. Pride and self-respect should be fostered, for they are the highest incentives in life to good behavior. The term of imprisonment should depend upon the progress made in reformation, and on good behavior; the culprit made to realize that when he gives evidence of fitness to be trusted with his liberty it will be restored to him. The incurable — the born criminal of Lombroso — should be dealt with as a permanent enemy to society, and the first aim in his case, after sequestration, should be precautions against a progeny. When a man has been diagnosed as a natural criminal, twice convicted of any felony, along with the forfeiture of liberty for life and all other rights, he certainly should be deprived of the right to inflict upon the next generation a progeny sure to be like him. Why not? Can any one give a single reason why this right should be respected when all others are taken away? The author thinks not. The criminal insane should also be embraced in this category. Were it understood that being insane at the time of the crime, or becoming so after, makes no difference, and that castration is to follow, sane or insane, there would be fewer pleas of insanity, and thus would be stopped one loophole of escape by which

many defeat the ends of justice. The author then quoted the case of the notorious Jukes family, with which the readers of the JOURNAL are familiar.

Capital punishment is becoming more and more abhorrent to thinking people, and is being very generally condemned by medical writers as barbarous, useless and unjustifiable. Castration is rapidly growing in popular favor as a substitute for it. In my State (Texas) the agitation of the subject has become a movement. At the last session of the Legislature a bill to that end was actually introduced and found favor. But owing to other and exciting questions, it was pigeon-holed and lost sight of. Texas may yet set the example in this rational reform. Even a decade ago there was much intolerance on the subject, and one was bold indeed who would advocate it. Dugsdale in his history of the Jukes was clearly of the opinion that castration was the only rational thing for the born criminal, but he was afraid to say so. Flint quotes him as saying: "In dealing with habitual typical criminals, where we can not accomplish individual cures, we must organize extinction of their race. They must be sternly cut off from perpetuating a noisome progeny either by propagation, or pervertion of a coming generation. The old laws attempted this extinction by hanging." And, in commenting upon this sentence, Flint says: "Dugsdale evidently did not care to suggest a method of organizing extinction of their race;" but one less severe than hanging readily suggests itself. It would not be difficult to devise a method of sterilization of irreclaimable born criminals which would not offend sentimental public opinion; this to be applied, not as a punishment for any particular class of crime, but merely for protection of society, and after a full scientific investigation of every case.

Dr. Daniel closed his contribution in the following words: "The time has come, and the occasion demands that science should boldly advance its standard and plant it upon the bulwarks of intrenched ignorance, bigotry and intolerance and compel attention. Humanity demands it: public safety demands it. By an organized effort on the part of the two learned professions, Congress can no doubt be aroused to the necessity of being advised by them and induced to create a department of public health and hygiene. Its ramifications extending into each State, the knowledge necessary to intelligent legislation in the interest of society and the public welfare will then find its way to utilization through legislatures, however unwilling, and reform will be the order of the day."

MR. R. W. MCCLAUGHRY, Superintendent of the Illinois State Reformatory at Pontiac, discussed

THE HABITUAL CRIMINAL.

He first defined the word habit which, according to the Standard Dictionary, "is an acquired disposition to reproduce certain acts already performed several times, and which, by this repetition, become more easy, more rapid, and more sure. It is an acquired instinct, a second nature." Crime is well defined as an act of which the State disapproves and for which it provides a penalty. Crime has been ascribed by many writers to a lack of will, and while this expression is too indefinite to form a satisfactory explanation of many species of crime, it can be directly applied to the habitual criminal. First among the characteristics of the habitual criminal, even before his inordinate vanity, and his faculty for colossal, gratuitous, aimless lying, stand his lack of will power and his absolute disregard of consequences. The author then drew a distinction between the habitual and the professional criminal. The expression "habitual criminal" was a synthetic term and included many varieties of the malefactor. The moral idiot, the born criminal, the professional criminal and the frequent criminal, were all correctly described as habitual. While they formed connecting links in the criminal chain, they were still separate, and to the expert observer there could be no confusion. The professional criminal he defined as "one who daily or frequently repeats, with a fair certainty of escaping detection, the same crime or misdemeanor which furnishes him with a regular and asssured livlihood." There were not many varieties of criminals who could properly be placed in this class. Perhaps a fair instance of the type was the receiver of stolen goods, the professional "fence." Never, or rarely, committing a direct offense against either person or property, this type of criminal thrives upon the proceeds of crime, does more by precept, suggestion and "pressure" of various kinds to educate and turn out upon society finished and dangerous criminals, than any other agency that the devil has in his employ for this purpose. He is the modern type of Dickens' Fagin. This Fagin is the meanest, most treacherous, conscienceless, cowardly scoundrel in the whole catalogue of villians. He never permits either agent or operator to retain more than 10 per cent. of the proceeds of the booty that he has risked life or liberty to obtain. To the author's mind, the absolutely typical criminal was the fully developed, habitual thief, and it was in this class that all the signs of mental and physical degeneracy, characteristic of the crime class, were found. It was in this class that we find with startling certainty and frequency the malformations of the skull and the various anomalies which indicate a badly balanced organization. All these malformations could be found in persons of undoubted honesty and good reputation, but it had been proved by a series of searching and thorough experiments, that these anomalies are more than five times as numerous among criminals as they are among non-criminals. Moreover, it is rare to find a normal man presenting more than one of these anomalies, while it is almost impossible to find an habitual thief in whose physique there are not several typical malformations.

The question of responsibility and punishment of criminals is one on which the most widely divergent opinions are held by various schools of scientists and philosophers. According to the Italian school the criminal is an atavistic anomaly. He can not help it. It is not his fault that he was born with a natural inclination to do evil. His crime is the result of a malformation of his brain, and in the opinion of Mr. McClaughry it is fair to punish a man for his deformity. To illustrate this point, he selected the case of Prendergast, the assassin of Mayor Harrison. It was claimed by the lawyers and experts for the defense that the assassin was insane. "The fact that Prendergast, an uneducated person, seriously considered himself qualified to discharge the duties of Corporation Counsel would, he thought, indicate of itself that his mind was unbalanced. Moreover, the comparative measurements of Prendergast's skull proved that he possessed all the stigmata of the paranoiac. But he did not consider that the fact of Prendergast being unbalanced rendered his execution unjust either to society or to himself. As regards society he was one of its vermin, and as such his removal was necessary. This removal could have been equally accomplished by confinement for life, but so strong is the power of suggestion upon people of his kind that, if it had been for the unfaltering and decisive action of public opinion in his case, we would have seen an epidemic of assassination in various parts of the country. The verdict in Prendergast's trial was a foregone conclusion, the same as was the verdict in the case of Guiteau, and of the Chicago anarchists. The three verdicts were the result of those periodical outbursts of public sentiment, against which the eloquence of council, legal technicalities, or even evidence itself are of no avail. Their results may be harsh, but they are healthy. They cleanse, for a time at least, the moral atmosphere."

Concerning the criminal who had passed beyond the reach of preliminary or preventive measures, the author said that the joint experience of hundreds of persons, who had for years made daily observation of this class, was to the effect that the habitual criminal was absolutely incurable. More than this, he was a constant source of untold harm to society, and should be eradicated, as we eradicate the germs of a pestilence. In the first place it should be carefully established by the courts acting under certain well understood principles, whether or not the accused is a habitual criminal. The failure to put this or that technical phrase in the indictment should be no bar to the submission to the court of conclusive evidence showing his real criminal character. Under our present system the face of the accused may be as familiar to the judge as is that of the State's Attorney. He may have been convicted before the same judge twenty times; but if, on the twenty-first trial, the fact has not been set forth in the indictment, no evidence can be permitted to prove it. Now, upon its being clearly proved that the accused is a perpetual criminal, a social parasite, who has given repeated evidence that his liberty is a direct and serious menace to the community the punishment should be decisive. The penalty should be no longer correctional but preventive, and imprisonment for life appears to offer the only solution of the problem. This, the essayist admits, is drastic treatment, but it is required. The greatest latitude should be allowed the courts and the prison authorities in the matter of imprisonment. Take our courts and our prison management out of politics and we will have removed the greatest obstacle to the protection of society, through the administration of its laws. Justice should no longer be represented as blind-folded. Take the bandage from her eyes and then she will see to weigh other things beside the mere criminal act in her balance. She will weigh, not only the circumstances surrounding the act itself, but the past and the probabilities of the future in the case of each offender, and when she is permitted to do this she will see that only permanent removal from society will meet its needs so far as regards that contagious pest, the incurable habitual criminal.

Dr. Hamilton D. Wey, Superintendent of the New York State Refromatory at Elmira, followed with a paper entitled

MORBID SEXUALITY IN A REFORMATORY,

in which he said that the medical man swayed by no sentimentality should in a scientific spirit accept conditions as he finds them, not confounding nor mistaking a *post hoc* for a *propter hoc*. The spirit and function of the law constitute the protection of society and conservation of morality, the according of privileges and restraint of license, while the formulation of the several statutes looking to the above end is based upon a knowledge of mankind as at present existing, and not upon an ideal man. The author is of the opinion that perverse, morbid and pathologic sexuality exists to a greater degree than is commonly supposed by those who had given the subject little consideration and attention. Abnormal sexuality was found in the city, and it flourished in the country. Nor was the speaker convinced that the morals of the country in this respect were superior to those of the city. It is not suprising that sexual malpractices are found in penal institutions despite the exercise of most constant and unrelaxing supervision. As the medical officer of a State Reformatory, receiving males between 16 and 30 years of age, upon first conviction of felony, it had fallen to him to have at various times under his observation and care a greater or less number whose sexuality found expression in unnatural ways during imprisonment. All the boys and men in the institution with which he is connected were sexual freelivers prior to conviction. Some habitually gratified themselves in a natural manner and were sexually normal, but under the restraining influences of imprisonment became either active or passive pederasts according to opportunity, or practiced onanism. The most common and widespread phase of sexual activity that comes to his notice is masturbation. He does not think that there is the unanimity of opinion there should be between alienists and prison physicians as to the ultimate disastrous effects upon the nervous system and mind, and coincidentally upon the body, of long-continued, frequently indulged-in masturbation. Each views the habit from a different standpoint and under different conditions, and each is correct in his conclusions from his point of observation. The former comes to look upon the sexual deviation he sees in mental disease as an outcome and accompaniment of insanity and refers to cases in which exaggerated and morbid sexuality, obscene language, indecent exposure, etc., appeared after mental disease had declared itself. These conditions are the concomitants of insanity—the effects. The trained eye of the prison physician speedily recognizes the habitual masturbator, detects him in his practices, notes physical and mental decline as self-indulgence increases and intervening periods of sexual quietude decrease in length, until finally there is a lapsing into dementia preceded by a transient and active mania, or melancholia ensues. Indeed, it seems as if some youthful prisoners yield themselves in confinement to morbid sexuality as if this was all that was volitional remaining in them. At this juncture the author dwelt upon several phases of sexual pervertion and cited typical cases.

In closing he submitted three propositions:

1. Have prison officials, without the liability of laying themselves open for damages, the right to castrate, asexualize or sterilize a sexually morbid prisoner against his will, when indications of such operation are manifest? And is there the same justification for such surgery as in the operation for the relief of a strangulated hernia and the elevation of depressed bone in a fracture of the skull performed upon the person of a dissenting convict?

2. Is an imprisoned convict competent to execute an instrument declaring his wish to be asexualized and granting immunity from damages for abrogation of sexual capacity? If he be a minor, could he so consent without the concurrence of his parents or guardian; and could the latter compel him, without his consent, to submit to asexualization?

3. On such consent having been voluntarily given and subscribed to in due form in the presence of witnesses, could he at the termination of his imprisonment maintain a suit for damages? If as above stated, could the factor of imprisonment in the case be construed as coercion operating to obtain the consent above named, and become the basis of litigation? The author is not aware that asexualization has been employed in the treatment of those convicted of heinous sexual offenses and the sexually morbid and degenerate criminal. There are, however, precedents for its employment in the treatment of dements whose mental impairment followed perverted sexuality, and in connection with the care of certain defective dependent classes.

Mr. Mat. W. Pinkerton, of Chicago, followed with a paper on

THE ECONOMICAL TREATMENT OF THE HABITUAL CRIMINAL.

A comparative study of crime and criminals has led to the introduction of more humane methods, which have revolutionized the ancient theories of punishment. Theoretically the element of revenge has been eliminated and the security of society, together with the reformation of the offender, made the prime objects. We now aim to do the criminal as little harm and as much good as possible, while protecting the rights and interests of the public at large. The economical treatment of criminals is a question by no means limited to the amount of money involved. There is such a thing as suppressing crime in a manner that increases it in other directions, thus in the aggregate multiplying vice. In the speaker's judgment, our present methods partake largely of this character, and need radical revision. If prevention is better than cure in medicine and the ordinary ills of life, it must be equally true when applied to the evils that infect society. In dealing with criminals he would attack them in their cradles, and not wait until they have propagated a numerous progeny and become fit subjects for the prison or the gallows-tree. He would propose a more vigorous enforcement of existing laws, and the enactment of new ones with especial reference to the children of born or habitual criminals. Such persons should not be permitted to educate their children for the workhouse and penitentiary; to guide the feet of those born with a predilection for crime in the path that terminates at the gibbet. The children of such parents should at the earliest possible age be removed from their care and custody, placed in proper institutions and there reared and educated at the expense of the State, except where the parents are possessed of means, or the ability to earn money, when they should be made to pay for the maintenance of their offspring. To execute such a plan satisfactorily would cost a large sum of money, but it would still be an economical one. The greatest good would be conferred upon the children themselves, who would thus have a fair opportunity to become respectable members of society, instead of thieves, prostitutes and murderers. Such a system would have a decidedly good effect upon the criminal parents themselves. Mr. Pinkerton believes that castration of criminals would increase the morbidity and render the subject more dangerous in all respects, save one. He was hardly willing to admit that this exception would exist, except in the matter of procreation, since depraved fancies and impulses would most assuredly take the place of natural passions. Asexualization would not render desperate criminals docile or reduce their disposition to commit crime. He favors the imprisonment of habitual criminals, without leaving the slightest hope of release while they remain criminals; their children should be provided with proper homes, education and trades, and in adopting new methods, they should be such as will harmonize with humane notions and the progressive spirit of the age.

Mr. W. S. Elliott, of the Chicago Bar, discussed

THE LEGAL ASPECT OF THE TREATMENT OF THE HABITUAL AND SEXUAL CRIMINALS.

He stated that his contact with criminals had taught him charity, and he had learned this charity largely through the kindly offices of medical men who had taught him as a criminal lawyer, surveying the terrible crimes which are committed in communities, that nearly all of them are the results of conditions for which the so-called criminal himself was not responsible. Nearly all crime lies behind the criminal himself. He finds from his experience in meeting with people praying for divorces, that their children could never be anything else but animals, for the parents themselves entered into sexual congress merely as animals. Some months ago a mother came to him, asking him to defend her son. She said to him, "My son has the peculiarities which have caused this crime if he is guilty of it, because they are born in him." She also stated that "there was no night during the entire time that she carried that child during the period of gestation that her husband did not have access to her body from four to five times." How could the child be anything else but a sexual pervert, a masturbator. If it were worth while, he could state other cases of a similar character where women apply for divorces under similar conditions, saying that life is a burden to them, and that death is preferable, and that they can see in them the progeny coming from such sexual connections the causes which lead to this perverted condition. We will not be able to devise any method probably which will cure all crime.

The subject of asexualization is submitted for our consideration from at least two different standpoints, each of which would require a different answer, and he would touch briefly upon one point, namely, as to the legality of the supposed beneficial results of castration. So far as its being a proper legal measure as a punishment for crime, it would not be legal; that it would be considered without question an unusually harsh and cruel punishment, which is inhibited by the constitution

of the United States, and, so far as he knows, by the constitution of every State in the Union. It would be illegal, therefore unconstitutional, and he believes it is absolutely impossible to make it constitutionally legal by any legislature of any enlightened State. That they might be able to do it in Texas he deemed it possible, perhaps, but in Illinois or the great States where intelligence is moving forward, men would never consent to such a wicked and outrageous proposition as castration as a punishment for crime. As to the propriety of castration for the purpose of curing people who are given over irretrievably to masturbation and those terrible vices described by Dr. Wey, he thinks it would be just the same as though a leg should be cut off if it were necessary in order to save a man's life. There are a large number of people who are greatly relieved when society lays its hand upon their children, takes them and carries them away into penal reformatories. They are glad to get rid of them and to have society assume their clothing and their board. There are very many parents who would be glad to consent to this act, but over and above all, in the case of a minor it would be necessary for him to have somebody to speak for him. Not to pursue to any further extent the legal aspects of the subject under discussion, Mr. Elliott said he would like to discuss the subject briefly from his own ethical standpoint.

"I think it would be a very unfortunate step to proceed to the punishment of criminals by castration. I do not think that any of us have yet arrived at that degree of perfection where we dare reach out our hand and lay it upon any single fellow being and say, you stand where we may deprive you of that which God invested you with first of all, when he said, 'Increase, multiply and replenish the earth.' If you have that right, you have the right to kill a man, and you have the same right to kill him that you have to castrate him—no greater and no less in one instance than in the other.

"Again, it does not necessarily follow that a criminal is going to procreate a criminal. It does not at all follow that the brightest and most intelligent minds are the product of uncriminal ancestry; for some of the most brilliant minds that have dazzled mankind are nothing more nor less than abnormal forms of illegalized lust, and some of those names which dazzle history,—some of those stars which have shone brightest in the constellations of literature, are bright and brilliant and coruscating simply because of the result of abnormal conditions, and had they not taken that drift they might have taken some criminal form. I have been thrown in close contact with men whose minds were as bright as the morning star, yet who were as vicious as hell at heart and capable of the most damning offenses which, if society knew, it would spurn them. Furthermore, great intellectuality by no means indicates purity of heart, or purity of character. Nor dare you say, nor dare that man say of great personal vigor, power of mind and body and physical courage, that he himself will not be the procreator of criminals and of crime. And there is not a man probably within the sound of my voice, who has been an observer of men and things, who does not know that the men of the finest, strongest bodies and characters become the fathers of dwarfs and insignificant progeny. You can not recall now to your mind scarcely from the great Washington down through all of the proud galaxy of statesmen who have dazzled our political world and our American statesmanship, very many men who have sons that have risen to anything like the commanding position which their fathers have, and many of them have had sons who have disgraced the paternal name, and whose names can be found recognized in the reformatory institutions of this country only by numerals. And it is a well recognized fact, as I understand it, by medical men, that through an atavistic tendency to reproduction in one age men will be of small stature, of criminal tendency possibly, but by happy marriages may in their progeny reproduce splendid, noble specimens of manhood. It seems to me that we are not authorized as human beings to lay our hands upon any citizen and say, 'You have forfeited the rights with which the Almighty God invested you,' but that we will have to go back, in order to benefit our race, to the Sunday school, under the droppings of the sanctuary, and teach these people to grow up into the 'nurture and admonition of the Lord.' I believe castration would make people worse. I do not believe it would make them better."

At the close of Mr. Elliott's remarks, Dr. D. R. Brower moved that a committee of three be appointed by the President to draft resolutions embodying and expressing the leading principles of the papers that had been read, and that the report be submitted at a subsequent meeting of the Society. Carried.

The President appointed on this committee Drs. D. R. Brower, James Burry and G. Frank Lydston.

On motion, the Society adjourned.

SELECTIONS.

The Klebs-Loeffler Bacillus and Its Mystifying Congeners.—A discussion has recently taken place at the Pathological Society of London that has caused considerable confusion in the minds of those who have been hoping for a greater clearness of views regarding the causative factors of diphtheria. The editor of the *Medical Press and Circular* expresses this growing confusion in a leading article entitled "Bacteriologists to the Rescue," the gist of which is the need for a clearer differentiation of the bacilli that occur in the different conditions, sometimes pathologic and sometimes not pathologic, of the mouth, throat and nares. The articles is as follows:

The more the subject of the bacillus diphtheriæ and its congeners is discussed the more confused does it appear, witness the recent discussion at the Pathological Society of London. We have got used to hearing bacteriologists speak glibly of the long and the short variety, but we had scarcely become familiar with this summary classiffcation before we were confronted with a subdivision into "big ends and little ends," that is, in technical parlance the clubbed and non-clubbed. As if this were not enough to puzzle us we are now asked to consider an apparently unlimited number of pseudo-diphtheria bacilli some of which are morphologically indistinguishable from the general article. The difficulty, not to say the impossibility, of distinguishing between the genuine and the spurious bacillus is such that reliance can, it seems, only be placed on experiments on animals with the object of determining the virulence of the incriminated organism. A bacillus, however successfully it impersonates the pathogenic microbe, is contemptuously dismissed if, on inoculation into animals, it does not forthwith bring the life of the animal aforesaid to a premature and more or less violent conclusion. Unfortunately, although this is the only test we can at present hold on by, the most enthusiastic bacteriologist does not venture to claim that it is absolutely trustworthy. Indeed, there is much reason to believe that the virulence or otherwise of a given culture is largely dependent on conditions of environment, such conditions, like so much else in this department of scientific research, being at present very imperfectly understood. Then, again, the pathogenic significance of these numerous varieties, confining our attention for the nonce to the pathogenic organisms, is a matter of controversy. Some observers, possibly the majority, associate the long variety with certain clinical gravity, while the short microbe is credited with determining only mild attacks of the malady. On the other hand, the long bacillus, occasionally, at any rate, fails to correspond to a grave attack, while the short form, it is affirmed, has been known to cause death at short notice. Before we leave the subject we should like to indorse the protest that has been uttered against the misleading term—pseudo-diphtheria bacilli—applied to certain non-pathogenic bacilli of the diphtheria type. They are either diphtheria bacilli or they are not, and in the latter case it is not easy to see what assistance can be derived from calling them by a name which is only a negation. We might as well call the colon bacillus the pseudo-typhoid bacillus, to employ the trite analogy suggested by Dr. Kanthack. It is superabundantly evident that several years' work will be required before we shall begin to see clear in this direction. It can be no subject for surprise that there should be many varieties of bacilli conforming to the diphtheria type. There are hosts of vibrios and crowds of bacteria, and analogy would lead one to anticipate that the diphtheria family is not less numerous. What we have to do is to study their morphologic peculiarities and life history, in order to be enabled to distinguish those which are responsible for the production of the syndrome of symptoms which we associate with diphtheria from the others.

Hyperpyrexia in Typhoid Fever.—Dr. Wm. Osler, in the *Bulletin of the Johns Hopkins Hospital*, October, treats of three cases of fever whose temperature exceeded 107°. He says that among the 389 cases of typhoid fever under treatment in the hospital during the first six years of its work, there was only one case (fatal) with a temperature of 107°. Within the past few weeks there have been two cases in which the temperature registered 107° and over. One of these recent cases, A. B., a male was admitted after having been ill about two weeks. For a few days he seemed to be doing very well. "The most unpleasant feature of this case was the constant mental apprehension. On the fourth day after admission the temperature

reached 104°, and then ranged between 103° and 104° till the seventh day. The sponges reduced his temperature fairly well. I saw him at half-past eleven on the seventh day, and he then seemed to be somewhat better than he had been for a few days. He had been delirious through the night and tried to get out of bed. The abdomen was slightly distended. There was no pain in the right iliac fossa. At half-past eleven the temperature was 104°. At 1 P.M., he had a severe shaking chill. The respirations were hurried; there were loud expiratory groans; the expression was that of fright, and the patient cried out that somebody was trying to kill him. The pupils were widely dilated, but equal; the eyes had a wild, vacant stare. He sweated profusely. The temperature at noon was 104.2°; at 1:45 it was 106.2°. About 1:45 the shaking became less. The patient all this time was cyanosed; hands purple, lips blue, face dusky. At 1:45 the pulse could hardly be felt. At this time there was a slight twitching of the left side of the face but no actual convulsion. The cyanosis became more marked, the patient became weaker, the temperature rose at 2 o'clock to 107.5°—the highest recorded temperature we have had in typhoid fever—and he died at 2:45.

"The second case, a colored girl, at present in the hospital, was admitted about the third week of the fever. She looked very ill, and the nervous symptoms were pronounced. She had excessive jactitation, tremor and delirum. The temperature was 103°, and rose at 8 P.M. At 2 A.M. it was 102°, and then rose gradually till at 8 A.M. registered 107.2°. With ice-sponging her temperature was reduced very promptly. She was sponged at eight, ten, twelve and two, and by 2 P.M. her temperature was reduced to 102°, and by 8 P.M. to 100°. From that time she did remarkably well."

Experimental Sand Filtration of Water in Pittsburg.—There is a general prejudice against household filters, on the ground that they rarely receive the attention which their safe use demands. This prejudice is in some degree well founded, but it should not be extended to city filters, where water is purified by slow and careful sand filtration with all necessary supervision. Sand filters are common in Europe and are likely to be soon adopted by all American cities which now use contaminated river water and are suffering the usual penalty for so doing, viz: excessive typhoid fever mortality.

The Craig Street filter, of the Citizen's League, is an experiment to test the adaptability of the European method to our local conditions. The city water of Pittsburg is being continuously filtered, at the rate of 2,500,000 gallons, per acre, per day, through four feet, six inches of common washed Allegheny river sand, in a manner which may be seen by anyone who cares to visit the plant. (Craig Street, near Fifth Avenue, Bellefield.)

Since October 28, 1895, the sand having at that time settled together thoroughly, the filtered water has been of a uniformly satisfactory character with the exception of a brief interval following the November 12th scraping (when half an inch of sand was removed to prevent continued clogging).

Bacteriologic tests of the filtered and unfiltered water have been made almost every day since September 22, when the filter was started. Two chemic analyses have been made. A few results follow:

		Per cent. of bacteria removed by filter.
September	23	none
"	25	27 per cent.
"	27	46 " "
October	4	69 " "
"	12	89 " "

Soon after this the percentage of bacteria removed by the filter reached and exceeded 99 per cent. It remained approximately the same until the scraping.

I now give for comparison the bacteriologic analyses following the scraping of the filter on November 12. It is generally supposed that the efficiency of a filter is very much impaired by the cleaning process and that no good work is done until the "Schmutzdecke" is restored. Our experience seems to indicate that good results are obtained in a few hours (93 to 94 per cent. removal) and that the efficiency soon returns to the normal.

		Raw water. Bacteria per Cc.	Filtered water. Bacteria per Cc.
November	12[1]	. . .	. . .
"	13[2]	505	13
"	14	778	30
"	15	1156	64
"	16	782	56
"	18	946	8
"	19	424	8
"	20	196	8
"	21	612	6
"	23	232	7
"	25	350	8
"	26	176	4
"	29	1414	10
"	30	not counted	7

[1] Filter scraped; ½ inch sand removed.
[2] Twelve hours after second start.

The removal for a few days (November 13 to 16) amounted to 95 per cent. (average). The removal for the next nine days averaged 98.66 per cent.

CHEMIC ANALYSIS.

October 31, 1895.	Raw. Parts per 100,000.	Filtered. Parts per 100,000	Percentage removed by filtration.
Free ammonia	.00093	.00026	72 per cent.
Albuminoid ammonia	.00620	.00180	71 per cent.

Aside from the chemic and bacteriologic improvements which filtration effects, it is also interesting to note that the filtered water is superior to the raw in the following respects:

Odor, taste, suspended matter and most of the dissolved coloring matters are removed by the filter. When the filter is at its best, the effluent resembles distilled water and is even more palatable. At present, although the bacteria are being satisfactorily removed, the water has a slight brown color and a very faint opalescence, but is without odor or taste. The raw water just now is very brown, from dissolved vegetable matter, and very muddy also. At the present rate of filtration, the interval between scrapings seems to be about seven weeks.

The experiment thus far has been very encouraging. Our available river sand is suitable for city filtration and it is to be hoped that it will soon be so used. The experiment will be continued for the purpose of testing different rates of filtration, and the intermittent as well as the continuous system.

Additional financial aid for this enterprise will be greatly appreciated.—JAMES OTIS HANDY in *Pittsburg Medical Review*.

St. Luke, the Beloved Physician.—The patron saint of medical churchmen is Luke, the writer of the third Gospel. From a book recently issued by Mr. Henry Burton, the following paragraphs have been selected as showing utmost and most recent knowledge of the personality of that immortal name: "Concerning the life of St. Luke the facts are few. While some regard him as being a Grecian by birth, others maintain that he was that nameless one of the two Emmaus travelers. But both these suppositions are set aside by the fact that the Evangelist carefully separates himself from those who were "eye-witnesses," which he could not well have done had he taken part in the closing scenes of the Lord's life, or had he been honored with that "infallible proof" of the Lord's resurrection. That he was a Gentile is evident; his speech betrayeth him; for he speaks with a Grecian accent, while Greek idioms are sprinkled over his pages. Tradition, with unanimous voice, represents him as a native of Antioch, in Syria.

Responding to the Divine Voice that bids him "write," St. Luke brings to the task new and special qualifications. Familiar with Old Testament Scriptures—at least in their Septuagint form, as his many qualifications show—intimately

acquainted with the Hebrew faith and ritual, he yet brings to his work a mind unwarped by its traditions

And so the Gospel of St. Luke is the Gospel of the world, greeting "all nations, and kindreds, and peoples, and tongues" with its "peace on earth."

The only other fact of the Evangelist's life we will here notice is that of his profession; and we notice this simply because it enters as a factor into his work, reappearing there frequently. He was a physician: and from this fact some have supposed that he was a freedman, since many of the Roman physicians were of that class. But this by no means follows. All physicians were not freedmen; while the language and style of St. Luke show him to be an educated man, one, too, who walked in the upper classes of society. Where he speaks natively, as here in the introduction, he uses a pure Greek, somewhat rounded and ornate, in which there is a total absence of those rusticisms common in St. Mark.

The calling of a physician naturally develops certain powers of analysis and synthesis. It is the art of putting things together. From the seen or felt symptoms he traces out the unseen cause. Setting down the known quantities, by processes of comparison or of elimination he finds the unknown quantity, which is the disease, its nature and its seat. And so on the pages of the third Gospel we frequently find the shadow of the physician.

We recognize the "physician" in St. Luke's habits of observation, his attention to detail, his fondness for grouping together resemblances and contrasts, his fuller reference to miracles of healing, and his psychologic observations. We find in him a student of the humanities. Even in his portrayal of the Christ it is the human side of the Divine nature that he emphasizes; while all through his Gospel, his thought of humanity, like a wide-reaching sky, overlooks and embraces all such earthly distinctions as position, sex or race."

SOCIETY NEWS.

Reglement du XII Congres International de Medecine, Moscou, 7 (19)—14 (26) Août 1897.

1. Le XII Congrès International de Médecine est placé sous l'Auguste patronage de Son Altesse Impériale le Grand-Duc Serge Alexandrovitch.

2. L'ouverture du Congrès de Moscou aura lieu le 7 (19) Août 1897 et sa clôture le 14 (26) du même mois. Sa durée sera de huit jours.

3. Le Congrès se composera des médecins qui se seront fait inscrire et auxquels il aura été délivré une carte de membre. —Indépendamment des médecins, les personnes munies d'un titre scientifique, qui désirent prendre part aux travaux du Congrès, pourront également en faire partie aux mêmes conditions, mais en qualité de membres extraordinaires.—Pourront également en faire partie, en qualité de membres extraordinaires, les vétérinaires, les pharmaciens et les médecins-dentistes.

4. Les personnes qui désirent prendre part au Congrès doivent, pour obtenir leur carte de membre, effectuer un versement de dix roubles (vingt-cinq francs). Ce versement leur donne le droit de prendre part à toutes les occupations du Congrès et de recevoir toutes ses publications ainsi qu'un exemplaire des „Travaux du Congrès," aussitôt après leur publication.

Remarque.—Les membres extraordinaires ne prennent part qu'aux travaux des Sections du Congrès dans lesquelles ils se sont fait inscrire. Ils reçoivent toutes ses publications, mais n'ont pas droit de vote dans les questions qui concernent son organisation.

5. En faisant leur versement au Trésorier du Congrès, les membres doivent indiquer exactment et lisiblement leur nom, adresse et profession. Il serait en outre à désirer que ces renseignements fussent accompagnés de la carte de visite du souscripteur.

6. Le but du Congrès est exclusivement scientifique.

7. Les travaux du Congrès se répartissent entre douze Sections: 1° *Anatomie* (anthropologie, anatomie normale, embryologie et histologie normale); 2° *Physiologie* (y compris la chimie médicale); 3° *Pathologie générale* et *Anatomie pathologique*; 4° *Thérapeutique générale* (hydrothérapie, climatothérapie, etc.), *Pharmacologie*, *Pharmacognosie* et *Pharmacie*; 5° *Maladies internes*; 6° *Pédiatrie*; 7° *Maladies nerveuses et mentales*; 8° *Dermatologie* et *maladies vénériennes*; 9° *Chirurgie* (y compris les maladies du larynx, de l'oreille et des dents) et *Ophthalmologie*; 10° *Accouchements et gynécologie*; 11° *Hygiène* (y compris la statistique sanitaire, la médecine sociale, l'épidémiologie, l'épizootiologie et la science sanitaire technique); 12° *Médecine légale*.

Remarque.—En cas de nécessité, il pourra encore être organisé des Sous-Sections supplémentaires.

8. La gestion du XII Congrès International de Médecine appartient à la Faculté de Médecine de l'Université Impériale de Moscou.—Son organisation générale est confiée à un Comité, présidé par M. le Curateur de l'Arrondissement scolaire de Moscou et composé de tous les membres de la Faculté de Médecine, des présidents des Comités de Sections et de Sous-Sections et de membres honoraires.—Les questions concernant l'organisation du Congrès sont confiées aux soins immédiats d'un Comité exécutif présidé par le doyen de la Faculté de Médecine et composé de huit personnes choisies parmi les membres de cette Faculté.

9. Le Comité d'organisation et le Comité exécutif continueront à fonctionner pendant la durée du Congrès.

10. Les séances du Congrès auront lieu chaque jour, soit dans les assemblées générales, soit dans les Sections.

11. Il a éte décidé de tenir deux ou trois assemblées générales. L'époque de leur réunion sera determinée par le Comité d'organisation. A l'ouverture de la première assemblée générale, le président du Comité d'organisation proposera aux membres du Congrès d'élire les présidents honoraires et les secrétaires de ces assemblées.

12. Les heures auxquelles se réuniront les Sections seront fixées par le Comité exécutif après entente avec les présidents des Comités de Sections.

13. Le Comité exécutif, après entente avec les présidents des Comités de Sections, indiquera en temps utile ceux des savants étrangers qui pourront être élus présidents honoraires des Sections.

14. Les assemblées générales ont pour but: a) de décider les questions relatives aux travaux et aux affaires générales du Congrès; b) d'entendre les discours et communications offrant un intérêt général.

15. Ne pourront prononcer des discours dans les assemblées générales que les membres qui auront reçu une invitation à cet effet du Comité d'organisation.

16. Les propositions relatives aux travaux du Congrès devront être communiquées au Comité d'organisation avant le 1er (13) Janvier 1897. Le Comité décidera s'il y a lieu de donner suite à ces propositions ou de les examiner pendant le Congrès.

17. Dans leurs séances les Sections s'occuperont de l'examen des questions et des thèses proposées par leurs présidents et approuvées par le Comité d'organisation. Le principal objet des travaux des Sections consistera dans l'audition des rapports des savants désignés par le Comité et des communications ayant trait à la thèse choisie.

Si le temps le permet, on pourra examiner d'autres communications et d'autres thèses proposées par les membres du Congrès et acceptées par les présidents des Sections qu'elles intéressent.

18. Les questions scientifiques ne pourront être résolues par voie de vote.

19. Le temps assigné à chaque communication ne devra pas depasser vingt minutes et les orateurs qui prendront part à la discussion ne pourront pas parler plus de cinq minutes chacun.

20. Les membres qui prendront part aux débats devront remettre, le jour même, aux secrétaires des Sections respectives l'exposé écrit de ce qu'ils ont dit pendant la séance.

21. Le français est reconnu comme la langue officielle du Congrès pour toutes les relations internationales. Dans les assemblées générales il sera permis de prononcer le discours dans d'autres langues européennes.

Quant aux communications et aux débats dans les sections du Congrès, ils pourront avoir lieu en français, en allemand et en russe.

22. La personne chargée de présider une séance devra diriger les travaux conformément aux régles admises.

23. Les étudiants en médecine et les personnes étrangères qui s'intéressent aux travaux annoncés pour telle ou telle séance, pourront y être admis par les présidents honoraires, après entente préalable avec les présidents de Comités de Sections.

24. Les communications et les questions concernant les travaux de telle ou telle Section du Congrès devront être envoyées au président du Comité de la Section qu'elles concernent. Toutes les autres communications et questions devront être adressées au Secrétaire général du Congrès.

25. Dans une des assemblées générales on désignera le lieu de réunion du XIII Congrès International de Médecine.

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SATURDAY, JANUARY 18, 1896.

A NEW FORMULA FOR CRANIOGRAPHERS.

That the results of craniology thus far have been in great degree negative, is the deliberately expressed opinion of DR. HARRISON ALLEN, and this not very creditable state of affairs he ascribes to the fact that individual characters of both intrinsic and relative importance, have hitherto failed to receive attention. At the meeting of the Association of American Anatomists, recently held at Philadelphia, DR. ALLEN demonstrated a new method of recording the peculiarities of the human skull and proposed the adoption of a formula to be used in the description of every skull, embracing the data contained in the following list of characters: "In the frontal norma observe the glabella and supra-orbital ridges, defining the degree of curvature and of deflection in each. The external angular process of the frontal bone and the degree that it is inclined downward from a horizontal line. The frontal and maxillary portions of nasal bones are each to be separately measured, as well as the convexity of the bone from side to side. The root of the nose is recognized as a separate anatomic quantity; it extends from the fronto-nasal suture to the position of the small foramina on the dorsal aspect of the bone. The bone from the line of these foramina to the free distal border receives the name of the *salient*; the deviation of both the root and the salient to be recorded in degrees from the vertical. The recognition of the pre-maxilla as a constant quantity is important, especially to recognize the nasal aspect of the pre-maxilla as it extends from the incisive foramina to the end of the nasal spine. The length and height of the incisor crest are to be measured and other peculiarities of the pre-maxillary portion of the floor of the nose are to be noted also. The distance from the border of the anterior nasal aperture to the free border of the alveolar process is to be taken. In the lachrymal bone indicate the union or absence of union between the hamular process and the maxilla; the relations existing between the lachrymal groove and the orbital surface; the length of the suture between the lachrymal bone and the os planum of the ethmoid. Note in the malar bone, whether it does or does not enter into the spheno-maxillary fissure; whether or not there is a process of the posterior surface of the temporal border; whether or not there is a suture trace on the inner side of the zygomatic surface.

"Viewing the skull from beneath and proceeding from behind forward, record the following points: The shape of the hard palate whether parabolic, hyperbolic, or U-shaped; the choanæ, whether or not the lower margin is wider than the upper; the pyramidal process of the palatal bone, measuring its length; the petro-sphenoidal fissure, whether it is over-lapped by the spinous process of the sphenoid, or free therefrom; the foramen lacerum medium, whether it is open throughout, or closed from the basal aspect; the petrosal portion of the temporal bone, whether narrowed or inflated along the median border.

"Turning the skull on the side, the following points are to be observed, passing from before backward, the notch back of the external angular process, its depth and other peculiarities; the temporal ridge, noting the degree of interruption between the frontal and parietal portions at the stephanion; the parietal bone, whether or not a mortice-like process is present on the inferior border of the posterior mastoid crest; the mastoid process of the bone, whether or not marked by vessel-grooves above the line of the mastoid foramen; the lambdoidal suture, whether serrated or harmonic near the asterion.

"The vertical aspect of the skull yields the following points, from before backward; the sagittal suture back of the bregma, whether it is or is not carinated; the curve of the sagittal suture as it joins the angle of the occipital bone, whether it is continuous with the curve of the occipital or exhibits an interruption; and finally, the interval (sconce or skull-roof) between the temporal ridges."

In reviewing the items of this formula, it is noticed that they have been obviously selected because of their contrast to characters possessed by the anthropoid apes and for their value in establishing data for studies of variation in different individuals of the human race. The region of the supra-orbital ridges differs greatly, as is well known, between the higher apes and man, and also in early forms of man as compared with the later forms. The external angular process inclines more abruptly in long, narrow faces than in short broad ones. The entire region of the external nose, from

the fronto-nasal process to the alveolar process, is in DR. ALLEN'S opinion, of great value in craniology, especially in defining race. The nose also distinguishes the apes among themselves, and apes from men. The terms that define the shapes of the palate are those which were employed by BROCA; while the peculiarities of the sagittal suture are in general use to distinguish skulls; especially in differentiating the Eskimos from other races and general individual forms of low mental grade from those having a higher degree of mental development. The use of the other characters is original, so far as the lecturer knew, and for them he assumes responsibility. Among the more important of these may be mentioned the size of the spinous process of the sphenoid bone; the degree of closure of the foramen lacerum medium; the shapes of the choanæ; the lengths of the pyramidal process of the palatal bone; the interruption of the temporal ridge at the stephanion, and the changes in the lambdoidal suture as it approaches the asterion.

It is asserted by DR. ALLEN that a skull which is described by the formula above given, could readily be identified, if all labels or other arbitrary means of identification were lost, for, in his judgment, it would be physically impossible for any two skulls to have all the points of the formula the same. It will be observed that no measurements are along lines which convention indorses in describing crania, and nothing is said with regard to cubical capacity. The data embraced under the two heads last-mentioned, are entirely independent of the formula, and it goes without saying that the formula here given supplements rather than supplants them.

TUBERCULOUS BONE DISEASE OF CHILDREN TREATED BY INJECTIONS OF IODOFORM.

DR. WIELAND reports to the *Deutsche Zeitschrift für Chirurgie* that he has come to regard the conservative treatment with a 10 per cent. iodoform injection for tuberculosis of the soft parts, bones and joints, much more satisfactory in children than in adults; and analyzes in support of his view the report of the Children's Hospital at Basel for the last five or six years. He finds that tuberculous abscesses treated in this way healed very often. The method employed was to empty the abscess with an aspirator, then irrigate with a 4 per cent. boric acid solution, and after the cavity had been well washed out to inject 20 to 50 c.c. of a 10 per cent. iodoform emulsion, either in glycerin or oil or in water, adding a small quantity of gum arabic to hold the iodoform in suspension. As often as the abscess refilled the operation was repeated. It is essential to keep the part treated at rest, and to firmly support it with a flannel bandage.

Of twenty-one cases treated in this manner sixteen, or 80 per cent., were fully cured, four were removed from the hospital by parents before treatment was completed, and one case was a positive failure. In eleven of the sixteen successful cases one injection sufficed; in one, two were necessary; and in four, the patient required three injections. Fistulæ at the point of injection occurred four times, and once there was a septic infection of the large abscess.

Twelve cases of joint tuberculosis were treated in this way. Nine, or 75 per cent., were cured and two cases were much improved. Joint cases required from six to thirteen injections given during a period of two to six months.

Four cases had acute nephritis from the iodoform, which, however, speedily disappeared. In one case there was severe iodoform intoxication, but in this case 20 per cent. emulsion was employed.

SENN,[1] after an exhaustive review of the subject several years previously, came to a similar conclusion, but when does a continental authority quote an American? SENN'S summary should be kept in view to fully appreciate the force of this remark (page 278). *Conclusions.*—"1. Parenchymatous and intra-articular injections of safe antibacillary substances are indicated in all subcutaneous tubercular lesions of bones and joints accessible to this treatment. 2. Of all substances so far employed in this method of treatment, iodoform has yielded the best results. 3. The curative effect of iodoform in the treatment of local tuberculosis is due to its antibacillary power and its stimulating action on the healthy tissue adjacent to the tubercular product. 4. A 10 per cent. emulsion in glycerin or pure olive oil is the best form in which this remedy should be administered subcutaneously. 5. The ethereal solution should never be employed, as it is liable to cause necrosis of the tissues overlying the abscess and iodoform intoxication. 6. Tubercular abscesses and joints containing synovial fluid or tubercular pus should always be washed out thoroughly with a 3 to 5 per cent. solution of boric acid before the injection is made. 7. Injections should be made at intervals of one or two weeks, etc.," and then follow other aphorisms pertinent to the subject.

It is thus seen that WIELAND simply repeats substantially the conclusions of SENN, made three years before. The long list of continental surgeons favoring the iodoform treatment is fairly stated by GANGOLPHE,[2] although that author himself favors the method of LANNELONGUE—by chlorid of zinc. MICKULICZ, VERNEUIL, MOSETIG-MOORHOF, BRUNS, KRAUSE, VERCHERÈ, GRYNFELDT, DUPIN, BLAIZOT, MARTY, OLLIER, TRIPIER, TRENDELENBERG, VINCENT, and stoutest partisan of all, KOENIG, are quoted by GANGOLPHE as attesting the efficacy of the injection of iodoform emulsion in joint tuberculosis. KOELISCHER and ALBERT, of Vienna, recommended the acid phosphate of

[1] Tuberculosis of bones and joints, 1892.
[2] Maladies infectieuses et parasitaires des os, 1894.

calcium, but according to GANGOLPHE, a case of gangrene of the foot, consecutive to this treatment, decided him against the remedy.

In conclusion, it may be stated concerning iodoform emulsion injections as GANGOLPHE said of chlorid of zinc: "It is not a panacea, but a powerfully modifying agent." But our own experience fully justifies the hope of curing 30 per cent. of the less advanced cases of tuberculous joint disease by its use.

CASTRATION OF CERTAIN CLASSES OF CRIMINALS.

At a recent meeting of the Chicago Medico-Legal Society several papers were read on the management of some phases of sexual aberration in criminals and degenerates, that were somewhat noteworthy both from their substance and their authorship. The first was one by DR. F. E. DANIELS, of Texas, advocating castration as a punishment for certain sexual crimes, a proposition that has been before advanced from several different quarters, as well as by his own papers, but which so far has received no general approval. The same subject was taken up or alluded to more or less fully in the communications of DR. HAMILTON D. WEY, of the Elmira reformatory, and MR. MATT. W. PINKERTON, both in their special departments criminologists of national repute, and also by MR. W. S. ELLIOTT, a leading lawyer of Chicago. The general consensus of opinion of the speakers seemed to be against the views of DR. DANIELS, and the legal and constitutional objections to the proposed change in the criminal law were very strongly presented. The subject has, however, a medical side which was also brought out, though more by the lay speakers than by the physicians, and some stress was laid on the injury to character that might be thus produced, a danger that, considering the material thus to be operated on, might seem to the ardent advocates of the procedure as a rather negligible quantity. The possible danger, however, to mental integrity which was less prominently mentioned is a more serious one, and would be of greater weight in a purely medical point of view as regards the constitutional question whether it is or is not to be properly considered an unduly cruel form of punishment. But even here we have to consider whether these criminals are not already mentally as well as morally unsound, and this question arises especially in regard to the senile offenders who make up, as was stated by the legal gentleman in the discussion, a larger proportion of those committed for this form of transgression of the criminal law. The efficiency of the penalty would be doubly dubious in such cases.

If natural developmental impotence is no security against the commission of sexual crime, what guarantee is there that an artificially induced disability will be any more a deterrent? The argument that by this procedure we prevent the propagation of criminals and degenerates loses its force when it is considered that it is proposed to be applied to only a very limited number of individuals, and those often late in their lives when perhaps all possible mischief has been done. The moral effect as a preventive is undoubtedly overestimated, as any medical man can see from a little consideration is likely to be the case; and leaving all sentiment aside, it would appear that the penalty can be condemned for its probable inefficiency alone. Its proposal, however, bearing in mind the tendencies of lynch law in such cases, might seem prompted by benevolence rather than by cruelty, and as an attempt to divert popular passion rather than to vindictively add to the criminal code such a cruel and unusual punishment as is forbidden by the Constitution or the United States.

The therapeutic value of castration in cases of sexual aberration and perversion, which was especially discussed by DR. WEY, is also very much open to question and its legal bearings are not less important. The reported brilliant results of a Kansas physician with feeble-minded children will hardly, by themselves, suffice to give the operation a good medical standing; certainly not without confirmatory experiences elsewhere. There is moreover a certain amount of testimony by alienists and others that is not in support of his views, at least as regards the operation in the male, and the *a priori* considerations taking every aspect of the subject into account, will be claimed by a large proportion of the profession to be decidedly against them. Even if can be proven a legitimate therapeutic measure and as justifiable as amputation of a limb when it is indicated, there will still be the damaging possibility of legal complications that was very strongly emphasized by DR. WEY in his paper, to affect its popularity. It is not likely to become a common practice with prudent practitioners, and as a recognized therapeutic procedure it can hardly be said to have a brilliant and useful future. In other columns we present an abstract of the meeting.

LIABILITY FOR ACTS OF OTHER PHYSICIANS.

A practicing physician promised a party to attend his wife professionally during her confinement. A short time before that event took place he left the city for a three-days' vacation; having first visited the woman, and made an examination of her condition, from which he concluded, as he informed her, that his services would not be needed for a few days. Before his return, however, she was confined. The husband, when his wife's travail came on, telephoned to the house of this physician for him to come at once; and in response to this message another physician arrived, stating that the first one was out of town, and that he represented him, and proceeded to take charge of the

case, and to deliver the woman of her child, without any objection being made. It was not suggested that his treatment of the wife was unskillful, but in an action brought by the husband to recover damages from the first physician, evidence was offered to show that after the birth of the child the substitute physician improperly severed the umbilical cord so close to its body that it was impossible afterwards to tie it, and that the child consequently died, in a short time, of umbilical hemorrhage. The shock caused by her child's death, it was testified, so affected the mother as to seriously injure her health and render her an invalid for months, thereby depriving the plaintiff of her services and companionship, and making it necessary for him to incur expenses which he would not otherwise have been called upon to meet. The trial judge adopted the theory advanced, that the substitute was the agent and represenative in this matter of the first physician, and that, therefore, he was legally liable for such loss of services and companionship, and for such expenses resulting from the second physician's unskillfulness. But the court of errors and appeals of New Jersey holds that this was wrong and reverses a judgment rendered in favor of the husband. (MYERS vs. HOLBORN, decided November 20, 1895.) These were both practicing physicians, having no business connection with one another, except that the second was attending the patient of the first while he was temporarily absent. Even if it be admitted, therefore, that the second was employed by the first to attend upon this woman, the reviewing court holds that that fact did not render the first physician liable for the other's neglect or want of skill in the performance of this service, for an examination of the authorities will show that a party employing a person who follows a distinct and independent occupation of his own is not responsible for the negligent or improper acts of the other. But if it had reached the conclusion that the second physician was the agent of the first in this instance, the court further says that under the New Jersey statute no recovery could have been had in this case, the pecuniary injury sustained being that which resulted from the death of the child causing the sickness of the mother attended by loss of her services and an increase of expense on her account.

THE MEDICAL SOCIETY OF THE DISTRICT.

The Medical Society of the District of Columbia is fortunate in having for its president, DR. SAMUEL C. BUSEY, whose aims are the highest, and whose activity is not at all diminished by his length of service. The Society has acted wisely in continuing him as president.

In his annual address just published, he takes up the work of the Society during the past year, especially in regard to legislation for the District, and a complete record is given of the doings of the committee having in charge the various bills to regulate the practice of medicine, in which the many difficulties encountered by the Society are fully dealt with. We regret to say that the Society's recommendations have not yet met the approval of Congress by statutory enactment, although the committee having the matter in charge distinctly informed the Senate that they would be willing to accept for the District any of the medical practice acts in force in forty-one States of the Union.

Concerning the publication of the Society's Transactions, some interesting local history is given, and then the author recommends as a means of advancing the interest of the Society, that an annual volume of Transactions be published. In this recommendation he disclaims any intention of being inimical to the excellent *National Medical Review*.

RULES OF THE XIITH INTERNATIONAL MEDICAL CONGRESS.

We publish in another column the original rules issued for the organization. We are informed by that document that the Congress is placed under the patronage of His Imperial Highness the Grand Duke Serge Alexandrovitch. The Congress will be held at Moscow beginning Aug. 7, (19 old style) 1897 and continuing eight days. Ten rubles (25 francs) is the membership fee. There will be twelve sections. The Organization of the Congress will be under the general direction of the Medical Faculty of the Imperial University of Moscow. The time assigned to the papers will not be allowed to exceed twenty minutes, and there will be only two or three general sessions. French is recognized as the official language of the Congress for all international relations, and other European languages will be permitted in the General Assembly, but communications to the Sections must be made in French, German or Russian. All communications should be addressed to the Secretary General of the Congress, Moscow.

CORRESPONDENCE.

Jeanel's Emulsion—a Correction.

LOUISVILLE, Jan. 13, 1896.

To the Editor:—I regret to note that in spite of my correction of the proof in the formula containing Jeanel's emulsion, the typesetters have persisted in the use of the *ounce* mark instead of the *drachm*. The prescription as originally written and corrected in the proof was as follows:

℞ Jeanel's emulsion of copaiba . . . . . ʒii
Distilled water . . . . . ʒvi

The emulsion is very powerful, and, in the strength you print, it would be quite sufficient to dissolve the corneal epithelium. The matter is so important that I beg you to correct it as soon as possible. I am, sincerely your friend,

DUDLEY S. REYNOLDS.

NOTE.—The corrected proof was not received at the publication office until that portion of the JOURNAL had been printed.

Tribadism.

DUBUQUE, Jan. 10, 1896.

To the Editor:—Referring to your note in reply to Dr. King, in issue of January 4, page 41, would say: I have consulted Thomas' Medical Dictionary, International, Funk and Wagnall's, and American Encyclopædic dictionaries, all I have at my immediate command, for definition of *tribadism*. Believing others beside Dr. King and myself are ignorant of its meaning, will you or the author enlighten us.

Fraternally, J. H. GREENE.

ANSWER.—The term is defined in Dunglison's, Billings', Foster's and Gould's dictionaries, as a form of sexual perversion. By looking at any of these dictionaries you may find the word.

PUBLIC HEALTH.

Smallpox Stamped Out.—The smallpox epidemic at Martin's Ferry, Ohio, appears to be at an end, Wheeling and Bridgeport having raised the quarantine against that city.

Death Rate in Chicago.—The Report of the Bureau of Vital Statistics of Chicago, Ill., shows the following: Total deaths from all causes during the month of December, 1895, 1,771; annual death rate, twelve months ended Dec. 31, 1895, per 1,000 of population, 15.12. The corresponding death rate of year 1894 was 13.36.

New Jersey State Board of Medical Examiners.—Dr. E. L. B. Godfrey, of Camden, N. J., has been elected secretary of this board, *vice* Dr. Wm. Perry Watson, resigned. The next meeting of the board will be held at Trenton, N. J., on the third Tuesday and Wednesday of June next, and applications for examination must be filed with the secretary at least ten days before that time.

Duluth Water Officials Indicted.—Press dispatches from Duluth, Minn., of January 13, state the following: "The reign of the Duluth Gas and Water Company, which caused an epidemic of typhoid fever and many deaths here by furnishing impure water, is at an end. This afternoon the grand jury returned indictments against William Craig, the general manager, and James Stewart, the chief engineer, at the main pumping station. Craig is indicted on a charge of manslaughter in the second degree for the death of Harry W. Smith, caused, it is alleged, by the negligence of Craig, acting as manager of the gas and water company, in furnishing impure and unwholsome water."

Anti-Alcoholic Physiology in the Public Schools.—New York, as well as certain other States, has a law upon the statute books, requiring that the dangers of alcoholic drinks shall be lectured about or taught in the public schools, under the guise of physiology. There has been some rebuke of the educational authorities of New York city because so very little has been done, so that recently the superintendent has been set to work to complete a schedule of lessons to be taught in the balance of the current year. It is reported that teachers intend to apply to the legislature for a repeal of the act that requires such instruction, on the ground that it interferes with more important work.

Homes for Consumptives at Glasgow, Scotland.—The great work, conducted by Mr. Quarrier, for the relief of the orphan children of Glasgow, has nearly closed a quarter century. His homes "handle" not less than 1,000 boys and girls yearly and he now aims to provide a retreat for the orphans and others who develop tuberculosis. About every third child coming under his charge has a hereditary contact with consumption. These children do not fall victims to that disease, he says in his report, "because they were lifted out of the horrible pit and made to stand solid and straight by fresh air, good food, and surroundings that went to make health." He proposed that the consumptive homes would be constructed on the most scientific principle. In all he would require another £45,000 to build hospital accommodation for 200 patients, each with a separate bedroom. During the year they had taken in 400 additional children, making in all 1,400 dealt with in the twelve months. He thanked all who had helped the work by their gifts and sympathy, and said that as he had got during the past year for all purposes the £28,000 he had desired, so now he required £35,000 for the ensuing year, and expected to get it.

Co-relation Between Meat Inspection and Ocular Cysticercus.—An article in the *London Lancet* for October 19, informs us that in the twenty-fifth *Compte Rendu* of the ophthalmologic clinic of Dr. G. Hirschberg there is fresh evidence of the happy influence of meat inspection on the prevalence of ocular cysticercus in mankind. It appears that, from 1853 to 1866, Von Graefe had met with ninety cases of this affection among 80,000 patients suffering from diseases of the eye. From 1869 to 1885 Dr. Hirschberg examined the eyes of 60,000 people also affected with various eye diseases, and in seventy the cysticercus was discovered. From 1853 to 1885, this form of parasitism was met wtih in the proportion of 1 in every 1,000 clinic cases, and in certain years, as in 1876, it was 1 in 420; 1 in 450 in 1879; and 1 in 800 in 1877. When the organization of meat inspection was further perfected these proportions were considerably modified in the course of time, but not immediately. For instance, from 1883 to 1885, the cases of ocular cysticercus were still relatively numerous, but in the four following years, between 1886 and 1889, of 30,000 patients at the eye-clinic only one had this entozoön in the ocular cavity; and among 43,000 who came under his observation from 1890 to 1894 there were but two thus affected and they were strangers to the district. These figures go far toward showing that a good system of meat inspection, in suppressing the issue of diseased flesh as a food for man, has at the same time almost completely abolished a rather frequent source of human ocular parasitism.

Law for the Prevention of Milk Typhoid in New Jersey.—A recent bulletin of the State Board of Health of New Jersey states that during the year 1894 an outbreak of typhoid fever occurred in Essex County which could have been arrested after the appearance of the first case, if the local health board had been prepared to act. No suitable action was, however, taken and as a consequence 115 cases of the disease developed in the locality, 107 of these persons having partaken of milk which was produced on the farm where the disease first appeared. Fifteen deaths attended this epidemic.

During its last session, the legislature of that State passed the following act which gives to the State Board of Health an equal authority to proceed, in such emergencies, with the local boards.

"That when the State Board of Health, or any officer thereof, duly authorized in writing by such board to act for or on behalf of said board, shall have reason to believe that any milk has been contaminated by the emanations, exhalations or discharges of any person sick with communicable disease, it shall be lawful for the said State Board of Health, or the officer so authorized to act in the premises, to prohibit the transportation or sale of any milk suspected to be contaminated as aforesaid, and also to prohibit the transportation or sale of any milk which may be produced, stored, kept or found upon any premises infected by such disease; such prohibition shall continue until the State Board of Health, or the officer authorized to act in the premises as aforesaid, shall in writing remove such prohibition.

"That any person or persons who shall transport or sell any milk the sale and transportation of which has been prohibited, pursuant to the provisions of the first section of this act, shall be liable to a penalty of $50, to be recovered by the State Board of Health in an action upon contract for the uses of the State of New Jersey in any court of record within said State."

This act does not lessen the responsibility of local boards of health, nor in any respect relieve them of the duty of making

and executing ordinances to prevent the spread of disease by milk. It only provides a method whereby the citizens of the State may be protected in cases where local boards fail to take advantage of the privileges accorded them by the laws.

Variable Milk Standards.—The following interesting report of a milk-case appears in *Public Health* for November, showing only too clearly how transitional is the situation in England, as to the standardizing of milk. In the number of this JOURNAL for October 26, we referred to views and testimony of Mr. Richard Bannister regarding the fluctuating milk-standards. As will be seen below, his evidence in the case was promptly followed by a dismissal of an otherwise well-supported charge of the local health officials. "In a case heard on September 26, at the Harlesden police court, the Middlesex County analyst Mr. Bevan, working to a standard of three, certified that 10 per cent. of the milk fat had been abstracted. The milk also contained boracic acid. The defendant had his third of the sample analyzed by another analyst, who certified to dilution with 8 per cent. of water, but disagreed as to the removal of milk fat. The same milk was sent to Somerset House (by which is meant that branch of the English local government that has charge of questions of food-adulteration) and a certificate received to the effect that the government chemists were unable to say that fat had been removed." At the hearing, Mr. Richard Bannister, on behalf of the Somerset House chemists, stated that the limit now adopted was 2.75, and that the difference was so small between 2.69 and 2.75 that they could not say any fat had been abstracted; moreover, this year had been a bad season, and they had found the milk fat somewhat lower than usual. The bench, on Mr. Bannister's evidence, dismissed the case. It is generally known that some few years ago the Somerset House chemists never supported an analyst's certificate for fat removal, unless the fat found was under 2.5 per cent.; latterly, as Mr. Bannister says, the limit has been raised to 2.75 per cent. Nothing can show more clearly the great public inconvenience of variable standards than the above case. Mr. Bevan works to a standard of 3; another analyst, as stated in the evidence before the Food Products Adulteration Committee, works to 2.5; the Somerset House chemists "wobble round" 2.75, allowing in practice a few hundredths for differences in season. It is to be hoped that the voluminous evidence taken before the committee of the last parliament will be utilized, added to, and a bill next season brought in, codifying, enlarging, and amending the existing law, and laying down definite standards, so as to render it impossible for any wide divergence of opinion on identical facts to interfere with the administration of the law, and to protect those rapacious dealers who would grind the poor, by selling them adulterated foods.

Tennessee State Board of Health.—The Tennessee State Board of Health held its quarterly meeting January 8.

John W. Ross, M.D., of Clarksville, was unanimously nominated to Gov. Turney as member of the board to fill out the unexpired term of the late Dr. Daniel F. Wright. The governor expressed cordial approval of this nomination. That portion of the Secretary's report respecting the importation of smallpox into Tennessee from points in Arkansas and Mississippi was taken up and discussed, Mr. Graves in the chair. Dr. Plunket read from the *Nashville American* of January 5, a special telegram from Memphis as to the action of the conference held at Memphis January 4. In this connection the following resolution, offered by Mr. Graves, was unanimously adopted:

"The attention of this board has been called to a special dispatch from Memphis, under date of January 4, and published in the *Nashville American* of January 5, to the effect that the Tennessee State Board of Health was represented in a conference held in Memphis, January 4, in connection with health authorities from Arkansas; said telegram indicated that drastic measures were adopted at this conference, and that it was agreed that negroes were to be given to understand that they were to submit to vaccination or be shot; that the white people proposed to take care of their families whose lives were being endangered by the crazy action of negroes. We wish now to state that no such action was had, recommended or even hinted at. Therefore, be it

Resolved, That this board disclaims any connection with any such proceedings, as there were none such had at the conference held at Memphis.

Resolved, Further, that this board condemns and rebukes in strong terms the sending forth of such untrue and sensational telegrams either by the associated press or newspaper correspondents. That the entire action of the meeting is, in fact, embraced and set forth in the communication sent by the members of said conference to the governor of Arkansas and being embraced in the report of the secretary of this board to this meeting.

Dr. Plunket then called attention to the condition of affairs in Arkansas and Mississippi relative to smallpox and offered the following resolution:

WHEREAS, There has existed for some weeks past a number of foci of smallpox among negro settlements located near the Mississippi River, in the State of Arkansas; and,

WHEREAS, For weeks the lives and health of the people living in those counties of Tennessee which form the opposite bank of said river have been placed in constant jeopardy by the practice of surreptitiously passing to and fro of the inhabitants of these infected centers, a number of instances have thus recently occurred in which smallpox was brought into the State by these people and which practice, under ordinary means, is practically impossible to prevent, therefore be it

"*Resolved*, That the Surgeon-General of the United States Marine-Hospital Service be, and is hereby requested to take, without delay, such steps as will give the western boundaries of Tennessee that protection from this pest, which under recent Federal law is provided for the States and which under the circumstances our people are so justly entitled to."

Dr. Elcan offered the following resolution:

"WHEREAS, This is the centennial of the admission of Tennessee into the Union; and,

WHEREAS, The State has determined to hold an exposition for the purpose of showing to the world the great resources and varied products of the State, and the progress made in the arts and sciences during this period, and

WHEREAS, The public health service of the State has been and now is an important factor in its development,

Resolved, That the State Board of Health publish a bound volume, to be known as the Centennial Reports of the State Board of Health, showing the climatology and topography of the State, the endemic and epidemic diseases which have prevailed from time to time, together with the origin and history of the State Board of Health, and the benefits derived therefrom by the people of the State, and in order to carry into effect the objects and purposes of this resolution, the President of the board is hereby authorized and instructed to appoint the following special committees, whose duties it shall be to collect and formulate the facts and statistics in the form of reports, to be made to the October session of this board. These reports together with the secretary's reports, then to be compiled by secretary into a bound volume for use by the State.

"Committees—1, The origin and history of the State Board of Health: 2, The endemic and epidemic diseases occurring in the State: 3, The climatology and topography of the State."

Ohio Board of Health.—The following is a summary of the tenth annual report of the Ohio State Board of Health for the year ended Oct. 31, 1895:

So far as reports enables us to speak the year seems to have been one of general good health, except at its close, when typhoid fever was more than usually prevalent. We must again deplore the fact that Ohio is without a proper system for the collection of vital statistics, which would enable us to present accurate data showing its healthfulness as compared with other States, and the healthfulness of its cities and towns as compared with one another. Thousands die and thousands are born of whom no official record is made. It is recommended that the laws be changed providing for the registration of births and deaths by boards of health instead of by assessors.

During the year, that is to October 31, smallpox was reported in Ohio as follows: Cincinnati 131 cases, Cleveland 17, Toledo 3, Columbus 2, Mansfield 2, Lima 5, Martin's Ferry 6, Bridgeport 16. Pease township, Belmont county, 7; Gallipolis township, Galia county, 7; Deerfield, 4, Wellington 3, Addyston 2, Westwood 3, Williamsport 2 and Ripley 1, a total of 206 cases. The disease was still prevailing at Bridgeport and Martin's Ferry at the close of the year.

Attention is called to the fact that smallpox is a very expensive disease. "A single case of smallpox in a small village has been known to cost many hundreds of dollars in actual outlay and loss of business, while an epidemic of the disease may bring a community to the verge of bankruptcy."

General vaccination and revaccination are urged as a sure preventive of smallpox, and one which business men, from financial considerations, if from nothing else, should be interested in having enforced. In regard to pollution of public water supplies the board says: "Few if any of our rivers escape sewage pollution, and none of them affords a perfectly satisfactory supply in an unpurified state. Increasing population will soon make it absolutely necessary for the protection of the public health to prevent the pollution of sources of public water supplies, or to require such supplies to be purified by artificial means.

"The experience of thickly-settled Europe teaches that both of these measures will eventually be necessary."

During the year the board acted upon applications for approval of public water supplies for the following places: Canal Dover, Celina, Columbus, Columbiana, Delta, Fostoria, Lebanon, Logan, Lorain, Montpelier, Osborne, Painesville, Port Clinton, Salem, St. Bernard and Wapakoneta. These were all approved excepting Columbus, Lorain, Painesville, Port Clinton, and Salem. Approval for supplies for Lorain and Port Clinton was withheld pending further investigation.

The question of a new water supply for Columbus is considered and it is said: "The typhoid fever death rate in Columbus for the past eight years shows conclusively that a contaminated water supply is being used. During that period 415 deaths have occurred in that city from this disease, which is equal to 3.86 per cent., of the deaths from all causes. This is a higher rate on that basis than that of any other large city in the State. Columbus can not hope to escape being scourged with this disease until a purer water supply is introduced, and polluted wells, wherever found, are closed."

The board acted upon applications from the following places for approval of sewerage systems: Ashland, Cincinnati, Cleveland, Delaware, Evanston, Hamilton, Logan, Marysville, Tippecanoe City, Warren and Wyoming. Approval was refused in the case of Cincinnati and Cleveland. The sewerage system of Ashland, already in use, was condemned. In most instances approval was granted on condition that the sewerage be properly purified within a reasonable but specified time.

Attention is called to the gross pollution of streams by sewage at Bucyrus, Tiffin, Findlay, Mansfield and Lima: also to the pollution of streams by waste from strawboard works. The enactment of proper laws to deal with these rapidly-growing evils is urged. Special reports are given of inspections of several public building and of investigations of nuisances arising from various causes. There are now 1,738 local boards of health in the State, all of them in close communication with the State board. "While in many places the duties of a board of health are greatly neglected, as a rule excellent work is being done by these local organizations. Homes have been made healthier and happier, the ravages of contagious diseases greatly lessened, and the public health measurably improved by their efforts."

Six counties of Eastern Ohio sent delegates to a conference with the Ohio State Board of Health, January 8, at Bellaire. About sixty were present.——Localized epidemics of measles are reported from Union, S. C., Coopersdale, Lambertville and Titusville, Pa., and Port Morris, N. J.

Health Reports.—The following health reports have been received in the office of the Supervising Surgeon-General Marine-Hospital Service:

SMALLPOX—UNITED STATES.

Louisiana: New Orleans, December 1 to January 4, 10 deaths.
Michigan: Detroit, smallpox reported present December 28 to January 4.
New York: Brooklyn, January 4 to 11, 2 cases, 1 death.
Tennessee: Memphis: January 4 to 11, 7 cases.

SMALLPOX—FOREIGN.

Dublin, December 14 to 28, 2 cases, 2 deaths.
Hong Kong, November 16 to 23, 1 death.
London, December 21 to 28, 1 death.
Madrid, December 17 to 24, 7 deaths.
Montevideo, December 1 to 7, 4 cases.
Naples, December 18 to 25, 10 cases, 10 deaths.
Odessa, December 14 to 21, 7 cases, 1 death.
Prague, December 14 to 21, 26 cases.
Rio de Janeiro, November 23 to 30, 36 deaths.
Rotterdam, December 21 to 28, 1 case.
St. Petersburg, December 14 to 21, 8 cases, 7 deaths.
Warsaw, December 7 to 21, 4 deaths.

CHOLERA—FOREIGN.

Austria-Hungary: Galicia, December 10 to 16, 11 cases, 7 deaths; from Aug. 23 to Dec. 16, 1895, in 56 localities, a total of 424 cases, 278 deaths.
Egypt: Borachia, December 4 to 5, 2 cases, 2 deaths; Cairo, December 7 to 11, 1 case, 2 deaths; Damietta, December 5 to 11, 16 cases, 17 deaths; Farascour, December 8 to 10, 10 cases, 13 deaths; Matarieh, December 8, 1 case, 1 death; Zarka, December 7 to 9, 5 cases, 4 deaths.

CHOLERINA.

Morocco: Stelleu, December 15, 13 deaths.
Russia: St. Petersburg, December 14 to 21, 68 cases, 44 deaths.
Turkey: Constantinople, December 17 to 23, 2 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janiero, November 23 to 30, 18 deaths.
Cuba: Santiago, December 21 to 28, 12 deaths.

NECROLOGY.

James Edmund Reeves.—The following is a brief biographical sketch of the late James E. Reeves, notice of whose death appeared in the Journal January 11. James Edmund Reeves, Chattanooga, Tenn., son of the Rev. Josiah Washington and Nancy Mosee (Kemper) Reeves, grandson of Thomas Washington Reeves, was born April 5, 1829, Amissville, Rappahannock County, Va. Obliged to assist his father, who was a tailor, his early education was neglected, and he had to leave school at the age of 14; but he was determined to gain more knowledge, and by extra work made money with which to purchase books. At the age of 19 he commenced the study of medicine with Dr. Elam D. Talbott, at Philippi, Va., and after one year's instruction under this preceptor, he went to New Market, Va., and became the pupil of Dr. Jacob Neff. Here he was given every possible opportunity to study disease at the bedside, and frequently had charge of patients. In the spring of 1850 he opened an office at Sutton, the county seat of Braxton County, now West Virginia, and by the following October had earned enough money from his practice to enable him to attend a course of lectures at Hampden Sydney Medical College, Richmond, Va. His second course of medical lectures was at the University of Pennsylvania, and he was graduated from that institution in 1860. He remained one year at Braxton Court House, after that nine years at Philippi, seven years at Fairmount, twenty years at Wheeling, W. Va., and for the past five years and a half at Chattanooga, Tenn. Soon after settling at Wheeling he began to agitate the subject of municipal hygiene, and secured the passage of an ordinance establishing a city health department. In 1869 he was elected city health officer and county physician, which office he held four years. Subsequently he was elected a member of the city council, and served four years. He was one of the founders of the American Pub-

lic Health Association, of which he was president in 1885. In 1867 he prepared and sent out the call for the establishment of the State Medical Society, of West Virginia, and was elected its first recretary, and in 1881 chosen its president. He was one of the executive committee, for West Virginia, of the International Medical Congress, in Phildelphia, 1876. In 1882 he was elected a member of the Judicial Council of the AMERICAN MEDICAL ASSOCIATION. In 1884 he was elected an honorary member of the Connecticut State Medical Society. For many years he has been a correspondiug member of the Pathological Society of Philadelphia, was one of the vice-presidents of the Section of Public and International Hygiene of the International Medical Congress, Washington, D. C., 1887; vice-president of the American Microscopical Society, 1886; member of Advisory Council Pan-American Medical Congress, also Demonstrator of Pathological Histology, at the meeting in Washington, September, 1893. He was a member of the Association of American Physicians, was the author of the law creating State board of health of West Virginia, of which he was a member, and its secretary for five years. He was employed by the State board of health of Tennessee to make sanitary inspections of the State's defences against yellow fever during the Jacksonville epidemic of 1888. He was particularly interested in microscopic investigations, and has devised sundry microscopic appliances.—*Physicians and Surgeons of America.*

MICHAEL ALOYSIUS CREMIN, M.D., a long time resident of New Haven, Conn., died December 28. He was a graduate in arts, and an alumnus of the College of Physicians and Surgeons, New York class of 1875. He was a licentiate in midwifery from the Royal Rotunda Hospital, Dublin. He had been prominent in municipal and educational circles in New Haven, Conn. The cause of death was ascribed to neurasthenia. He left a widow and family; his age was 43 years.

GEORGE HENRY KIRWAN, M.D., of Wilkes Barre, Pa., who died December 28, aged 41 years, was one of the prominent practitioners of the Wyoming valley. He received his degree in 1882 from the College of Physicians and Surgeons, New York. He had been United States Examining Surgeon and attending surgeon at the Luzerne County prison. He died at his home without a rally from an operation done for relief from an attack of appendicitis.

M. N. BARBER, M.D., of Milwaukee, Wis., January 6, aged 75.——Oliver A. Dailey, M.D., of Kansas City, Mo. January 5.,——G. Weston Wood, M.D., of Minneapolis, Minn., January 6, aged 53.——A. N. Barrows, M.D., of Hartford, Conn., January 3, aged 79.——Thomas H. Moss, M.D., of Hartford, Mo., December 25, aged 64.——R. Elliott, M.D., of Knoxville, Iowa, January 8.——J. A. Throckmorton, M.D., of Houston, Tex., December 28, aged 75.——H. R. Payne, M.D., of Kansas City, Mo., December 29, aged 68.——G. B. Lathrop, M.D., of Ann Arbor, Mich., December 31, at Los Angeles, Cal.——Jonathan Morris, M.D., of Ironton, Ohio, Dec. 26, 1895, of cerebral hemorrhage, aged 72. He graduated from the Cleveland Medical College in 1847, and had been in active practice ever since that time, serving three years in the U. S. Army as surgeon of the Ninth Virginia Volunteers. He has also been honored with many responsible and honorable positions, among which was representative from the county of Lawrence in the Ohio legislature. He has been a member of the AMERICAN MEDICAL ASSOCIATION for many years, and almost always in attendance at its annual meetings.

MISCELLANY.

John R. Park, M.D., is Superintendent of Public Instruction in the new State of Utah.

Portrait of Dr. Peck.—The many friends of the late W. F. Peck, M.D., will be pleased to learn that a life-sized painting of the distinguished Iowa surgeon will be placed in the historical rooms at the capitol in Des Moines.

Asepsin is the name of a new "cure" for consumption, which the daily press informs us will soon be made public through the columns of an Eastern medical journal.

Transactions XI International Medical Congress.—Perhaps some of our readers can inform us for the benefit of numerous correspondents when the volumes will be ready for distribution.

A Royal Physician.—The Queen of Portugal has just passed the examinations qualifying her for practice as a physician in the land of her adoption. It is the first instance on record of a lady of sovereign rank winning for herself by means of diligent study the diploma of a Doctor of Medicine.

New Medical Journals.—We have received the following new journals: *Langsdale's Lancet*, edited by John M. Langsdale, M.D., and published at Kansas City, Mo.; *Cleveland Journal of Medicine*, the official journal of the Cleveland Medical Society, edited by Henry S. Upson, M.D., and P. Maxwell Foshay, M.D. We wish the new journals success and prosperity.

English "as She Is Wrote."—Dr. Willis P. King, the Secretary of the Missouri State Board of Health, is said to have received the following:

"*Deer Docktur:*—Ples informe me when and whar the State Bord of Helth Meats."

Another interesting correspondent wrote him of a successful operation he had performed on a case of "pendasetas."

Measure of Damages Effected by Miscarriage.—In the personal injury case of Tunnicliffe v. Bay Cities Consol. Ry. Co., decided by the Supreme Court of Michigan, Dec. 10, 1895, it holds that if the plaintiff was entitled to a verdict, she had the right to damages for personal pain and suffering, mental and physical, occasioned by the accident, and, if her sickness was aggravated by a miscarriage caused thereby, the attendant pain and suffering were to be considered.

The Livingstone Medical College, London.—This missionary preparatory college has taken up new and more commodious quarters, and are now to be found in East London on Hamfrith Street, Stratford. Dr. Harford Battersby, who has charge of the work, states that in addition to the ordinary lectures on medical and surgical subjects, a special point is made of detailed instruction in the diseases of tropical climates, and lectures are given by those who have been in India, China and Africa respectively.

Reported Suicide of a Faith Healer, following a Failure to Cure.—A dispatch from Rochester, N. Y., informs us that a female healer hanged herself from an apple tree. She was a resident of East Wayland and was the leader of a band of Christian Scientists, or something of that sort. Having been called in to heal a case of meningitis, and having failed, the parents of the patient drove the band out of their house. This failure worried the leading healer to that extent that she threatened to drown herself. She was watched, however, and that mode of self-destruction was prevented, but she managed to elude the watchers so far as to get away and hang herself. This is a very regretable incident from every point of view, but it is wonderful that there have not been more of the same kind.

Death of a Yellow-Fever Volunteer of 1878.—Robert S. Blakesley, one of the volunteers from New York in the time of the yellow fever plague of Memphis, in 1878, died on Thursday, December 26, after a lingering illness.

Mr. Blakesley was one of the volunteer nurses who went to Memphis in the autumn of 1878, under the leadership of Dr. Thomas S. Easton. The queen city was then in the throes of a serious epidemic. Such of its citizens as could had fled the place, and the remainder were dying daily by scores. Barely enough remained to nurse the sick and bury the dead. A call for help was sent out, and Mr. Blakesley was one of the first to respond. He contracted the fever while on duty, but recovered and returned to his work. He had many thrilling experi-

ences, and some of them were published upon his return. He brought back a gold medal bearing this inscription: "For bravery. Presented to Robert S. Blakesley, for heroic conduct during the yellow fever epidemic of 1878."

Once More a Librarian.—From New York comes the report that Dr. John S. Billings, U. S. A., retired, director of the department of hygiene of the University of Pennsylvania, has accepted the position of chief librarian of the consolidated libraries of New York City, consisting of the Astor, Lenox and Tilden libraries. This offer was made a week ago, and Dr. Billings hesitated about accepting it lest he might inconvenience the trustees of the University. They, however, did not wish to stand in the way of Dr. Billings' advancement, and ordered him to accept the offer. In his letter of acceptance Dr. Billings says that until July 1 he will divide his time between Philadelphia and New York, spending two days of every week in each city. Dr. Billings' reputation as an authority on hospital construction is of the first order, and he is the leading authority the world over in medical bibliography. The two works that gave him the greatest fame were his catalogue of the Surgeon-General's library of 90,000 volumes, and the Index Medicus. He is considered the best bibliographer in America, and on the strength of that reputation he was elected a member of the National Academy of Sciences.

The Itinerant Practitioner Not a Vender of Drugs.—The Iowa law requires "any itinerant vender of any drug, nostrum, ointment, or appliance of any kind intended for the treatment of diseases or injury, who shall by writing or printing or any other method publicly profess to cure diseases or injury or deformity by any drug, nostrum, manipulation, or any other expedient" to pay a license of $100 a year. A practicing physician, whose residence is in Ottumwa, Iowa, advertised in two newspapers that he would be at a certain hotel in Oskaloosa, Iowa, every Tuesday for the purpose of treating patients. That he "made a specialty" of chronic diseases and rupture, and that he would treat catarrh of the nose, throat, and lungs in a most successful manner. He also mentioned other diseases which he would treat, such as chronic stomach troubles, liver, kidney and kindred diseases. It was conceded that he was not a vender in a criminal sense, but it was claimed that he vended medicine in a professional sense. The facts showed that he undertook to effect cures for a named consideration, and, like many other physicians, he did not write prescriptions to be put up at drug stores, but used his own medicines. By so doing, the supreme court of Iowa holds, in the case of State vs. Bonham, decided December 10, 1895, he was not a traveling or itinerant vender of drugs, nostrums, or ointments, or anything else prohibited by statute. The law which the prosecution invoked for his punishment, it declares, was not intended to designate the regular medical practitioner an itinerant vender. The purpose was to tax such itinerant venders as go from place to place advertising and selling proprietary medicines, such as "Wizard Oil" and the like.

Care Required of Druggists.—In view of the dire consequences that may result from the least inattention or want of skill, the appellate court of Indiana says that druggists, apothecaries, and all persons engaged in manufacturing, compounding, or vending drugs should not only be required to be skillful, but should also be exceedingly cautious and prudent. All persons who deal with deadly poisons, noxious and dangerous substances, are held to a strict accountability. The highest degree of care known to practical men must be used to prevent injury from the use of drugs and poisons. It is for these reasons that a druggist is held to a special degree of responsibility. The care required must be commensurate with the danger involved. The skill employed must correspond with that superior knowledge of the business which the law requires. Following this expression of opinion, the court holds, in the case of Howes v. Rose, decided Nov. 26, 1895, that where wholesale druggists furnish a retailer the wrong drug, as for example a package of tartaric acid for Rochelle salts, the same being labeled "Rochelle salts," which the retailer opens, puts into a jar and therefrom deals out a small quantity of, as Rochelle salts, to a customer, that although the wholesale dealers, or those who improperly labeled the drug may be liable to the consumer injured thereby, an action will lie against the retailer providing he has been guilty of any negligence in making the sale. But it holds that the mere sale of the wrong drug under such circumstances as those stated does not establish a presumptive case. The facts constituting the negligence must be established before the plaintiff can have judgment.

Anæmia or Anemia?—*To the Editors of The Lancet:* SIRS.—Spelling is, at the present time, a prominent subject. It has a special interest for us now that so many medical books printed in the United States, present to us spelling which we are not yet sufficiently familiar with to appreciate. The readers of *The Lancet* may be interested in the following letter from Professor Skeat, which he has been so good as to give me permission to send to you. The spelling of the word "anemia" carries with it that of many others.

I am, Sirs, yours faithfully, W. R. GOWERS.

"DEAR SIR.—It is quite impossible to regulate spelling. The one great principle in all cases of doubt and dispute is that every man shall make his own laws, and it is not likely that argument will be listened to or even permitted. In the new English Dictionary the spelling given is *anæmia;* all the same, the spelling *anemia* occurs in one of the examples. It is largely a question of date. The Latin *æ* became *e* in French; and when words come into English through French the spelling *e* may easily prevail. For example, we have the word *primeval* on a French model. I am trying to introduce the spelling *medieval*, to pair off with this; and I think it is making some headway. We have, in Cambridge, a 'Medieval and Modern Languages Tripos.' The practical objection to *æ* and *œ* is that they are difficult to write and print. In many cases an *e* would serve the purpose. I need not say that the authorized version of the English Bible (by many considered as good authority) has the form *emerods* instead of *hæmorrhoids;* yet no one objects. Ogilvie's Dictionary prefers *hemorrhoids* to *hæmorrhoids*, and, I think, with reason. There is no *æ* or *œ* in English; it is always pronounced as *e*, and might just as well be so written. The use of writing is to represent the sound of the words, not to be everlastingly harping upon the Greek and Latin forms. But few people can see this; and when a thing is wrong they stick to it all the same. Thus *aneurism* is common, and I like it and admit it. But it is false etymology; of course it should be *aneurysm*. And the question for those who defend *hæmorrhage* is, Will you, then, undertake to use the form *aneurysm?* If not, why not? I pause for a reply. No one now writes *cælestial*, yet it from the Latin *cælum*. Again I ask, why not?

Yours sincerely, (Sd.) W. W. SKEAT."

Cambridge, Dec. 15, 1895.

—*London Lancet*, Jan. 4, 1896.

"A Good Physician is Like a Good Statesman."—One of the quaintest of the episodes growing out of the late war between China and Japan has been the gratitude of Prince Li to his surgeon by whom he was treated at Shemonosaki, after the prince had been shot by a fanatic. After the wounding, a celebrated Japanese surgeon, Dr. Kitasato, was immediately sent by the Emperor of Japan to look after the aged and unfortunate statesman. Dr. Kitasato is a great scholar and one of the most distinguished pupils and followers of the late Pasteur. He took the greatest interest in his distinguished patient, and cared for him nights and days, with the result that Li Hung Chang soon recovered his health. The two men learned to admire and respect each other, and a true and sound friendship now exists between them. The Emperor of China and Li Hung Chang having forwarded some very valuable presents to Dr. Kitasato; the latter sent a letter of thanks, to which the great Chinese statesman has just made the following interesting answer:

"Dear Friend:—When I was wounded at Shemonosaki you were so good as to visit me, and by your exceptional skill to

cure me of my injury. Such was your proficiency in your art that I was surprised to see my wound heal in a little more than ten days. My gratitude to you is so profound that words can not adequately express it.

"You have now placed me under a fresh obligation by favoring me with an epistle overflowing with sentiments of the warmest friendship. In it you acknowledge the receipt of the things forwarded to you through the kindness of Plenipotentiary Ito. Out of respect to my imperial master you have been so kind as to say that these trifling presents will be preserved by you as a treasure. At the same time you are pleased to express thanks to me, which I do not at all deserve. Since my return home I have kept very quiet and my health and spirits have steadily improved, so they are now in a normal condition. Even a rainy season lasting fully a month did not produce the slightest pain in the part where I was wounded.

"Your country abounds with good physicians, but a proficient like yourself is not only too rarely found in the East, but also is equal to any even in the West. A good physician is like a good statesman, for it is the aim of both to alleviate the miseries of earthly existence. Let me hope with you that peace and tranquility may last forever, and that people may be spared from sickness and wound alike. Do not believe that in expressing this hope any selfish motives enter my mind."

Li Hung Chang asserts that he never forgets an enemy nor a friend. His letter certainly seems to justify this statement.

Massachusetts Hospital for Epileptics.—There has been established by law, in Massachusetts, at Monson, on premises previously occupied by the State Primary School, a State hospital to be known as the Massachusetts Hospital for Epileptics. Its government is vested in a board of seven trustees appointed and commissioned by the Governor, with the advice and consent of the council, five of whom shall be men and two of whom shall be women, their term of office to be five years, except in the case of some of the first appointees. This board shall appoint a physician and assistant physicians and such other officers and agents as they shall deem necessary, who shall respectively hold and perform the duties pertaining to their offices and agencies during the pleasure of the board. Provision is to be made for the residence of 200 patients. The trustees are to have the same powers and are to perform the same duties in the management of this hospital as are vested in and required of the trustees of the various State lunatic hospitals. After the establishment of the hospital, they are to receive no compensation for services, though they are to be re-imbursed for expenses incurred in the performance of official duty. They may receive into the hospital for care and treatment any adult person, not a criminal, who is subject to epilepsy, provided such person be neither an idiot, an inebriate or violently insane. They may also receive and detain in the hospital, as a boarder and patient, any person subject to epilepsy who is desirous of submitting himself to treatment and makes written application therefor, but whose mental condition is not such as to render it legal to grant a certificate of insanity in his case; but no such person shall be detained more than three months after having given written notice of his intention or desire to leave the hospital. Otherwise, the provisions of law consistent with the act establishing this hospital, applicable to the State lunatic hospitals, regarding the commitment, detention, transfer and discharge of insane patients, are made applicable to this hospital. When any patient is received at this hospital, the superintendent shall report the particulars of the case to the State Board of Lunacy and Charity, which may investigate the same. Epileptic inmates of the class first mentioned who have been committed to any lunatic asylum may be transferred by the State Board of Lunacy and Charity to this hospital, and when that board has reason to believe that any such epileptic confined in any almshouse or other place is deprived of proper treatment or care, whether such epileptic is a public charge or otherwise, it may cause the transfer or commitment of such person to this hospital, and the board shall transfer from this hospital to some State lunatic hospital or asylum such inmates as may be found to be violently insane and requiring treatment therein. The charges for the support of the inmates of this hospital as are of sufficient ability to pay for the same, or have persons or kindred bound by law to maintain them, shall be paid by such inmates, such persons, or such kindred at a rate to be determined by the trustees of the hospital. The charges for the support of other inmates shall be paid by their places of settlement or by the commonwealth, at the rate provided by law for the support of patients in the State lunatic hospitals.

Practical Notes.

Availabilty of Acetanilid in Country Practice.—According to the *Virginia Medical Monthly*, Dr. Ben. H. Brodnax, of Brodnax, La., has found that for "that tired feeling," a pinch of acetanilid put into the mouth, mixed with saliva and swallowed, rests you up in a few minutes, so that you are as fresh as before. For headache from fatigue repeat the above and be relieved. As a dusting powder on burns, or as a surgical dressing, or to use on the "cord" at birth, make a mixture as follows: Acetanilid, boric acid, equal parts powder, dust thickly over the surface, covered with a light pad of absorbent cotton. This acts locally as an anesthetic, and is clean. It deodorizes and relieves pain. For intertrigo on infants or adults, use the above, dusting on and separating the surfaces that rub with absorbent cotton. The same as an ointment with castor oil, is a great soothing to painful surfaces, abscesses, etc. For abrasions of the skin caused by a blow from a hard substance, use as above, or mixed with castor oil. On old sores, use by dusting on thick, then cotton, with bandage. During labor it eases pain and brings on profuse sweat, which helps to relax muscular rigidity.

Urticaria Treated by Friction with Salt.—Dr. Meynet, in the *Revue de Médecine et de Chirurgie* advises the treatment of urticaria by frictions with salt. He says that in order to quell the troublesome itching resulting from the urticarial lesions, he has been led to follow a simple measure, but one which, in his hands, has proved the most successful: The wheals are moistened with cold water and rubbed for ten to fifteen seconds with a few grains of kitchen salt, which adhere to the previously moistened pulp of the index finger. One feels at first a slight burning, followed promptly by an agreeable sensation of coolness, and a notable diminution or even cessation of the itching, after which the papules usually disappear rapidly. Upon the area thus treated, one may then apply a little oxid of zinc ointment or rice or almond powder. If the urticaria is extensive, it is better, in order to avoid too much irritation of the skin, to apply the salt frictions to successive portions and not over the whole surface at one time. It goes without saying that one should not neglect the necessary modifications of the diet, and, if the urticaria be of toxic origin, a purgative should be prescribed, the best of which is calomel. Luke-warm baths may also prove useful.

Mercurial Polyneuritis.—R. V. Engel (*Prager Med. Wochenschrift*, 1894, No. 607) describes the case of a 29-year-old wife, who had manifested for four months typical luetic symptoms. She was treated with mercurial inunctions and in the course of the treatment some 20 grammes of unguentum cinereum were used up. The local symptons of the secondary syphilis subsided rapidly during the inunctions, but suddenly nervous disturbances appeared which became more and more intense and consisted of motor paresis in the extremities, abducens paresis, marked diminution of the sensation especially as regards touch and temperature, abolition of reflexes and pronounced ataxia. These symptoms could be interpreted only as due to a multiple peripheral neuritis, which was at first ascribed to the syphilis. The inunctions were consequently continued and 14 grammes more of unguentum cinereum were consumed. The nervous symtpoms did not subside, however, except the abducens paresis. In the meantime Leyden's decisive contribution concerning the rare causation of neuritis by

mercury appeared and this led to the abandonment of the inunctions, and then the patient improved quite rapidly, and expectative treatment was followed with a complete disappearance of all the disturbances on part of the nervous system.

Cystic Tumor of Breast Recurring on the Opposite Side.—Dr. Herbert L. Snow, of London, writes to the *Lancet* regarding the occasional experience observed in cystic degeneration of the mamma, showing that that disease has a tendency to recur, or repeat itself, in the second or opposite breast. He has seen three cases that have led him to be guarded in the matter of progress. He says: "It is best when operating carefully to remove the whole breast tissue, and if questioned, as commonly happens, about possible 'recurrence' to give a guarded prognosis so far as concerns the remaining organ. The point that we have here to deal with, a general and not merely a local lesion of the parenchyma, is hardly, I think, sufficiently appreciated by the profession at large, but unless attended to may involve the practitioner in some dispute. The first case was that of a woman aged 48, married, with two children, who was admitted to hospital in October, 1894, with an induration at the root of the right nipple of one year's duration. She complained of some lancinating pain. There had been no injury, but chronic ill health, and latterly she had been unfortunate in business. The tumor appeared as large as a hazel nut. The patient thought there had been discharge from the nipple. There was no gland enlargement. Upon removal it was found to be one large cyst, with the remaining parenchyma pervaded by minute cysts; there were no vegetations and no malignant indications. The patient has, about three months since, had the left breast removed for an exactly similar condition, the right side remaining healthy. The second case was that of a woman aged 35, single, seen in 1892. She was a spare, neurotic woman with a fluctuating tumor in the left breast, which had been noticed six weeks, as large as a pigeon's egg. On removal one large cyst filled with turbid fluid was found; the whole breast tissue was filled with tiny cysts. In July, 1893, the remaining organ was found to be slightly lumpy. In August, 1895, a distinct cyst the size of a bean was apparent in the lower segment, and removal was advised. The third case was that of a widow, aged 46, who had three children; she was seen in November, 1893. In the right breast was a large, prominent, globular tumor the size of a hen's egg, freely movable, hard and solid to the touch. The patient was neurotic through much worry. On removal a multilocular cyst with solid, round fibroma as large as a marble was found. There was no malignant tissue. The patient reappeared in July, 1895, with a tumor the size of a walnut, rounded and hard, in the left mamma. It quickly increased in size from augmentation of the fluid contents, and has just been removed, proving wholly cystic.

"Malaria" a Misnomer.—In the *Medical Bulletin*, November, Dr. Irving H. Bachman presents a summary of his studies in paludal disease. According to his view of the case the word "malaria" should be discarded as misleading, and we should adopt the word "malaqua." His remarks include the following propositions:

"The impression that malaria is caused by purely atmospheric influences has become so fixed in our minds that, unless we come in actual contact with the evidence produced in the use of pure water as against that heretofore used, the physician will, in all probability, be very slow to allow himself to be convinced that the word malaria (*mal*, bad; *aria*, air) is a misnomer, and that malaqua (*mal*, bad; *aqua*, water) is the word that should be used to cover the pernicious effects known under the name of malarial fever.

"The germ, which is of soil origin, is strictly a protozoön and reaches its highest development in low, moist ground with a favorable temperature. Surrounded by the proper soil conditions, this protozoön passes from one stage of life into another with considerable rapidity; so that in the present state of our experimental knowledge it is impossible to identify it, nor is it probable that by culture we shall be able to produce the accepted Laveran germ outside of the human system.

"As a rule, the potable water from the malarial districts is derived from driven wells not over twenty-two feet deep, in soil with clay or some other impervious substrata, which water is generally cool and palatable, often sparkling clear, but more frequently a little turbid. This water is filled with an incalculable number of these germs in all stages of development, and if used as a potable water they naturally find their way into the system through the alimentary channel. This protozoön passes through so many forms or stages of life that in some stages it is light enough to float and be transported by the moist air of low grounds, but in this state it is comparatively harmless except under most extraordinary conditions; it is not until the surface water is used that the real mischief begins, when, by reason of higher development, it has become much more virulent than that floating in the air. A very short period of incubation is sufficient to develop a severe case of malarial fever in the new-comer who uses the surface water.

"From personal observation I know that the exclusive use of pure, deep-seated water affords entire immunity against malaria in sections of country where no white man dared live using the surface water. Nor must it be understood that the exclusive use of pure water simply fortifies and strengthens the system against the attack of the germ. The water is the primary cause of infection, which acts as the direct carrier of the germ into the system through the intestinal tract."

Cocainization of the Nasal Mucous Membrane Before and During Surgical Anesthesia.—Dr. Gerster concludes a study of 100 cases of anesthesia in which the nasal mucous membrane was cocainized before and during administration of the anesthetic somewhat as follows:

As a result of the observations made in the 100 cases of anesthesia serving as a basis for the study, it was found that the cocainization of the nasal mucous membrane preceding and during surgical anesthesia, considerably diminishes the distress and oppression felt by the patient at the beginning. There was among the cases recorded that of a physician, who had been etherized before, and to whom the process then was extremely disagreeable. This time, his sense of smell being dulled, he experienced no feeling of suffocation, no tickling or irritation inviting coughing or retching, and his judgment was, that the new process was certainly a great improvement over older methods. In this as well as in almost all the other cases, excepting those of confirmed alcoholics, the observation was made that, at the beginning of narcosis, the patients manifested less reflex irritation than usual; that they entered insensibility more rapidly and quickly, with less struggling, coughing and nausea; that, especially when ether was used, the mask could be approached to the face of the patient much quicker without opposition or resistance. In conformity with this the later stages of anesthesia were also more quiet and more free from disturbing interruptions than usual. But here again habitual alcoholics formed an exception. On the other hand, perhaps ten times, and in about from twenty to twenty-five minutes after the first application of cocain, with no external reason, such as, for instance, profuse hemorrhage, a marked acceleration of the pulse rate, with facial pallor, was observed, followed by profuse sweating, probably the effect of cocain. It seemed also, that cocain anesthesia of the mucous membrane tended to diminish the depth of the respiration. As to the after effects, the impression was that in the cases observed there have been less nausea, vomiting, headache and general malaise than is the rule in ordinary anesthesia. It must be said, however, that in a few instances patients, who did not vomit at all during the first twenty-four or forty-eight hours, vomited a great deal on the second and third day without any recognizable cause. As to the anesthesia of alcoholics, where there is much need of improvements, Rosenberg's method does not afford any marked advantage over older methods. On the whole, it is safe to conclude that in view of the ease and simplicity of the procedure, of the absence of apparent risk, and on account of the undeniable elimination of the trying subjective effects upon the patient caused by the use of cocain

upon the nasal mucous membrane, its extended and systematic trial deserves encouragement.

Hospital Notes.

FIRE AT THE NEW YORK CONTAGIOUS DISEASE HOSPITAL ON RANDALL'S ISLAND.—A fire recently occurred on Randall's Island, New York City, in one of the cheap frame structures, furnished by the now extinct commission of charities for that city. The fire started at an early hour in the morning in a kind of cottage for the isolation of cases of measles; the inmates being two infant patients and one nurse. The nurse acted with great presence of mind and got the two children out of the place without accident. The building was soon completely burned down; loss estimated at $300, inclusive of the alcohol lamp that did the damage.

THE ANNUAL REPORT of the Connecticut Hospital for the Insane has been filed. The report shows there were 1,683 patients Sept. 30, 1895, 886 of whom were women classified as follows: Town paupers, 935; indigent, 591; State paupers, 104; private patients 27; old soldiers, 26. The percentage of recovery of those admitted during the year was 18.42. Twenty-five insane convicts were admitted from the State prison during the year, of whom two died, two escaped, one was pardoned and ten were returned as cured. There are forty-two insane convicts in the institution, the terms of nine of whom have expired. It cost $289,857 to run the institution last year, including the new building, North hospital.

AT A MEETING of the Board of managers of the Chester County Hospital, at Chester, Pa., on behalf of Mrs. S. T. Johnson of Philadelphia, a check for $3,500 was presented to that institution. This lady has already given $2,500 to the same hospital.——The annual meeting of the board of trustees of the New York State Hospital was held in Binghampton, N. Y., January 7.——At a meeting of the trustees of the Epworth Hospital at South Bend, Ind., plans were perfected for raising the sum of $20,000 for the purpose of erecting a new building.——The annual election of officers of the Erie County Hospital medical staff was held in Buffalo, N. Y., January 6. The officers of last year were re-elected.

Society Notes.

THE CENTRAL OHIO MEDICAL SOCIETY held its regular monthly meeting at Columbus, Ohio, January 2.——The Kansas City, Mo., Medical Society held a regular meeting January 4. The following officers were elected: President, J. H. Thompson; Vice-President, C. A. Ritter; Secretary, J. W. Kyger.——The Jasper County, Mo., Medical Society held a regular meeting in Joplin, January 7.——The annual meeting of the Schuylkill County Medical Society was held in Pottsville, Pa., January 7. The following officers were elected for the ensuing year: President, A. P. Carr, of St. Clair; Vice-President, A. F. Bronson, of Girardville; Secretary and Treasurer, George Little, of Tamaqua.——The regular meeting of the Syracuse, N. Y., Academy of Medicine was held in that city, January 7.——The Marion County Medical Society held a regular meeting in Indianapolis, Ind., January 7. The following officers were elected for the ensuing year: President, H. M. Lash; Secretary, T. B. Noble; Treasurer, F. B. Wynn.——The Twin City Medical Association held a regular meeting in Kansas City, Mo., January 7.——The Academy of Medicine of Columbus, Ohio, held a regular meeting January 6.——The annual meeting of the Winona County Medical Society was held Winona, Minn., Dec. 31. The following officers were elected: President, W. A. Chamberlain; first Vice-President, D. B. Pritchard; second Vice-President, G. J. Tweedy; Secretary, J. B. McGaughey; Treasurer, E. D. Keyes.——The annual meeting of the Clinton County Medical Society was held in Clinton, Iowa, January 7. The following officers were elected for the ensuing year: President, J. C. Langan; Vice-President, H. G. McCormick; Secretary and Treasurer, P. S. Kaadt.——The Inter-County Medical Society held its annual meeting in Spring City, Pa., January 2. The following officers were elected for the ensuing year: President, F. W. Heckle, Spring City; Vice-Presidents, William Brower, Spring City; W. Marsteller, Phœnixville; Recording Secretary, J. S. Morey, Royersford; Corresponding Secretary, Dr. Burns, Royersford; Treasurer, Dr. Finkbinder, of Parker Ford.——The Mobile County Medical Society held a regular meeting in Mobile, Ala., January 3. The following officers were installed: President, E. L. Marshal; Vice-President, D. W. Goodman; Secretary, F. R. Sherrard; Treasurer, J. G. Thomas.——At the fifty-first annual meeting of the Northwestern Ohio Medical Association, held December 12 and 13, the following officers were elected for the ensuing year: President, Charles Graefe, Sandusky; Vice-Presidents, Dr. Slocum, Defiance, and Dr. Phillips, Belle Center; Secretary, J. B. Baker, Findlay.

Detroit Notes.

THE WAYNE COUNTY MEDICAL SOCIETY at its regular meeting Thursday, January 9, listened to a very interesting paper by Dr. M. V. Meddaugh, entitled "Caloric, Its Utilization in Therapeutics."

THE DETROIT MEDICAL AND LIBRARY ASSOCIATION at its regular meeting Monday, January 6, was entertained by a paper entitled "The Coal Tar Antipyretics," read by Dr. C. J. Jennings.

HEALTH OFFICE REPORT for week ending Jan. 11, 1896: Deaths under 5 years 39, total 92. Births: Male 46, female 43, total 89. Contagious diseases: Diphtheria, last report 23, new cases 28, recovered 14, died 9, now sick 28. Scarlet fever: Last report 20, new cases 6, recovered 8, died none, now sick 18. Smallpox: Last report 2, new cases none, recovered none, died none, now sick 2. Measles: Last report 2, new cases none, recovered none, died none, now sick 2.

St. Louis Notes.

WEEKLY REPORT OF HEALTH OFFICER.—Total number of deaths during the week ending January 11, 189, compared with 180 for the previous week and 146 for the corresponding period of 1895. Contagious diseases reported during the week ending January 11: Diphtheria, 73 cases, 14 deaths; croup, 6 cases, 6 deaths; scarlatina, 7 cases, 1 death; typhoid fever, 3 cases; measles, 9 cases.

THE DUESTROW CASE.—A futile effort has been made to compromise on a life sentence for the insane murderer, and the beginning of the new trial is set for the 13th inst. The prosecution will be satisfied with nothing but a capital punishment, and thus seems bent on prolonging the legal struggle. The case has now become so well known in Franklin County that it will be next to impossible to obtain an unprejudiced jury, and it is now rumored that it will be impossible to convict him there. It is understood that some of the experts for the defense have refused to testify further owing to misunderstandings with the lawyers, but there can be no doubt that the coming trial will again throw discredit on medical testimony.

THE STATE BOARD OF HEALTH met in St. Louis on the 6th inst. and passed the students of the various medical colleges of the State in review on papers submitted by the faculties. It is clear that the board intends to carry out its rules governing the matriculation of students and the recognition of colleges, and it is to be hoped that the board will meet with support from the schools themselves. The present board has done more than any previous one to elevate the standard of medical education, and the classes matriculated this year give clear evidence of the result.

DAIRY INSPECTION.—The Health Commissioner is making an effort to have the city government pass an ordinance looking to the thorough inspection of all dairies. At the present time it is impossible to prevent the sale of impure milk, or to cause dairymen to cease to distribute milk from diseased cows. There

have been several discoveries of anthrax and tuberculosis in small herds of late, and yet nothing can be done to prevent the owners from disposing of the milk and the animals. There is an element in the lower house which has heretofore prevented the passage of any ordinance remedying the evil.

Louisville Notes.

U. S. Marine-Hospital.—Passed Assistant-Surgeon W. P. McIntosh last week relieved Passed Assistant-Surgeon H. T. Goodwin, commanding the U. S. Marine-Hospital here. Dr. Goodwin goes to Stapleton, N. Y., where he was stationed prior to his removal here.

Water Supply.—In its efforts to secure a pure water supply, the Louisville Water Company has inaugurated a series of competitive tests in order to find the most perfect system of filtration. These tests are carried on four miles east of the city at the pumping station, and so far the city has obtained no benefit from the filtration. Four companies who make a specialty of filtering the water supply of cities have entered the contest, and three of them have their filters at work. The latest claimant for attention is a company which by February 15 will have erected a plant, which it proposes to secure absolute purity of water by means of electricity and magnets. The process was recently described by the agent of the company. The water is run through a standpipe where it receives 200,000 volts of electricity. The pure water under pressue rises to the top and flows off directly into the mains, while the sediment sinks to the bottom and is carried off by another series of pipes. The Water Company requires of each party that enters the contest to erect plants capable of filtering 20,000,000 gallons of water daily, and that these plants shall remain in continuous operation for at least eight months. At the end of this time the filter making the best test will be chosen. In order to facilitate the tests and determine which filter gives the best continuous result, the Water Company has fitted out an extensive laboratory at the pumping station. This is in charge of experts, who make chemic and bacteriologic tests daily.

Ambulance Service.—The annual report of the driver of the ambulance shows that for the year ending Jan. 6, 1896, he has answered 1,123 calls.

Long.—Dr. John L. Long is an applicant for the position of superintendent of the Lakeland Insane Asylum, and has presented some of the very strongert indorsements from the profession and business men of the Fifth Congressional District. The Board of Commissioners and the Louisville Academy of Medicine have indorsed him and urge his appointment by the governor. Dr. Hobbs, of Jefferson County, and Dr. D. T. Smith are also applicants.

Academy of Medicine.—At the last meeting of this society in their rooms in the Louisville College of Pharmacy Building, Dr. Hugh N. Leavell read the essay on chloroform anesthesia. Dr. H. E. Tuley reported a case of scorbutus in a child 12 months old, which had been fed upon dried food from its birth. Dr. I. N. Bloom, in discussing the case, reported a similar one with the same history.

Philadelphia Notes.

At the January Meeting of the College of Physicians of Philadelphia, Dr. J. M. Da Costa was again elected President. Drs. Ernest Leyden of Berlin and Grainger Stewart of Edinburgh were elected to Associate Fellowship. Drs. Patrick Sarsfield Donnellan and Henry Toulmin were elected Fellows of the College. Dr. John B. Roberts presented a specimen of papilloma of the tonsil and Dr. Wm. Hunt some surgical instruments to the Müller Museum. Dr. F. X. Dercum read a communication "On the Functions of the Neuron with Especial Reference to the Phenomena Presented by Hysteria and Hypnotism." Dr. Dercum defined the neuron as the cell-body with all of its processes and claimed for the cell-body special and peculiar physiologic functions in opposition to the view defended by Dr. Mills that the cell-body has only a trophic function in nerve-centers.

The Pennsylvania Hospital will erect a new clinical amphitheater and receiving ward during the present year, the plans having been prepared by a committee of the staff and adopted by the managers. The estimated cost is about a hundred thousand dollars.

Dr. George Dock has been announced as the successor of Dr. Coplin as Professor of Pathology and Bacteriology at Jefferson College. He formerly held a similar position in the University of Texas and more recently in the University of Michigan.

Houston Hall, the new club-house for students of the University of Pennsylvania, was formally opened by Provost Harrison on January 2 and the first smoker was held last Saturday night, when over four hundred students from all the departments were in attendance. The building is a memorial of the son of Mr. H. H. Houston, the young man having died while in attendance at the University some years ago. Mr. Houston gave $50,000 to the structure and died before it was completed, but his family afterward contributed an equal amount. The building and equipment cost in the neighborhood of $150,000, the remainder being raised by subscription. It is furnished like a first-class club, including a large swimming pool and a billard room. There is also a lecture hall with about 360 seats and a miniature stage and dressing rooms, an athletic hall, supper room, and smaller apartment for fraternities, glee and banjo clubs, etc.

Dr. William T. Lusk, of New York, by invitation of the executive committee of the section on gynecology of the College of Physicians, read a paper on "Recent Bacteriologic Investigations Concerning the Nature of Puerperal Fever," on the 16th inst., at the hall of the College of Physicians. A reception was subsequently given in his honor by the chairman of the section, Dr. Charles B. Penrose at his private residence, which was largely attended by the fellows of the college and other invited guests.

The Philadelphia Chapter of the Alumni Association of the Jefferson Medical College was held January 14, in the college building. Dr. C. Biddle of the Miner's Hospital, Ashland, Pa., by invitation, opened the discussion on the subject of "Sprains." A collation was subsequently held, Dr. S. MacCuen Smith being the host. The annual business meeting of the Alumni Association will be held in the lower lecture room of the college, Saturday, January 18, at 8:30 P.M. Refreshments to be served after the meeting and all graduates of the school are cordially invited to attend.

At the Annual Meeting of the Philadelphia County Medical Society held January 15, the following officers were elected for the ensuing year: President, Dr. Jas. C. Wilson, Vice-Presidents, Drs. Jas. Tyson and Thos. J. Mays; Secretary, Dr. I. B. Schneideman; Asst. Secretary, Dr. John Lindsay; Treasurer, Dr. Collier L. Bower.

This is the way the results of the work of the State Board of Medical Examiners and Licensers appear in the public prints: "The three State Medical Boards have sent in reports for the last examinations which they conducted. They are: 'Allopathic' Board, 76 examined, 22 failed; 'Homeopathic' Board, 14 examined, 8 failed; 'Eclectic' Board, 1 examined, none failed."—*Public Ledger*, Jan. 7, 1896.

It would certainly appear that the praiseworthy effort to elevate medical standards has thus far resulted in advancing the cause of sectarian medicine and placing scientific practitioners on a par with homeopaths and eclectics. Who are "allopathic" physicians, anyhow?

Washington Notes.

Weekly Report of the Health Department.—The report of the Health Officer for the week ended January 4 gives the

following summary: Number of deaths (stillbirths not included): White, 52; colored, 26; total, 78. Death rate per 1,000 per annum: White, 14.4; colored, 15.4; total, 14.7. Death rate per 1,000 per annum corresponding week last year: 21.

DEATH OF DR. BAILEY.—The many friends of Dr. Geo. A. Bailey were shocked to learn of his death on the 9th inst., from typhoid fever. Dr. Bailey served as one of the staff of the Citizen's Hospital which flourished during the last Grand Army Encampment here.

ANTHROPOLOGICAL SOCIETY.—At the meeting of the Anthropological Society held on the 7th inst., Dr. D. K. Shute, Professor of Anatomy in the Columbia University, read an interesting and instructive paper entitled "Remarks on Racial Anatomical Peculiarities.

THE FORTNIGHTLY CLUB.—The forty-fourth meeting of the club was held on the 10th inst. at the residence of Dr. W. W. Johnston. The evening closed with a most elaborate banquet. A number of invited guests were present. The membership of the club is limited to eighteen M.D.'s.

A NEW CONTAGIOUS HOSPITAL.—There is a current story in effect that the Commissioners will establish shortly at Columbia Heights a pay hospital for contagious diseases.

DECISION IN FAVOR OF THE HOSPITALS.—Judge Hagner, in Equity Court No. 2, has decided that under the will of the late Emma L. Breese, the Children's Hospital and Garfield Memorial Hospital are entitled to receive from the estate the sums of $5,000 and $50,000 respectively. Mrs. Breese died at Philadelphia July 30, 1892, and the will appointed her sisters, Charlotte Bostwick, of Philadelphia, and Anna Matilda Maulsby, of this city, to be executrices in trust of the estate. This will was dated March 20, 1888, and in a letter addressed to her sisters, Jan. 12, 1891, Mrs. Breese declared that $5,000 should be given to the Children's Hospital for its endowment fund, interest only to be used, and that $50,000 should be used for the construction and endowment of a free gynecian hospital for poor and destitute women, to be built on the Garfield Hospital grounds as a branch of that hospital, and to be known as "The Louisa Lovett Fletcher Free Gynecian Hospital." The question to be decided was, "Did the letter constitute a codicil to the will?"

THE WOMEN'S CLINIC.—The Women's Clinic has removed to larger quarters to accommodate the increasing work. The new address is 1833 14th Street.

MEDICAL SOCIETY OF THE DISTRICT.—At the State meeting of the Society held on the 6th inst., the following officers were unanimously elected: President, Dr. S. C. Busey; Vice-Presidents, Dr. J. W. Bovee and J. H. Bryan; Treasurer, Dr. C. W. Franzoni; Recording Secretary, Dr. S. S. Adams; Corresponding Secretary, Dr. T. C. Smith; Librarian, E. L. Morgan. Board of Examiners, Drs. Kleinschmidt, Acker, Bowen, S. S. Adams and Ober. Censors, Drs. E. F. King, J. T. Winter and Chas. W. Richardson. Dr. Busey enters upon his fourth term as presiding officer, three of which have been consecutive. At the meeting held on the 8th inst., Dr. Ruffin read the essay for the month of January entitled "Treatment of Typhoid Fever." Dr. McArdle reported a case of osteosarcoma of the foot, and presented the specimen. The report of the Committee on the Publication of the Transactions of the Society, was laid over for discussion at the next regular meeting.

THE POST-GRADUATE SCHOOL OF MEDICINE OF THE DISTRICT OF COLUMBIA.—The bill to incorporate the Post-Graduate School of Medicine was favorably reported by Senator Gallenger, on the 10th inst., and upon his motion was unanimously passed by the Senate. Senator Gallenger is a homeopath physician and all medical matters arising in the Senate are referred first to him for a medico-senatorial opinion. The Senator is greatly interested in medical advancement and gives all such matters his personal attention.

REQUEST OF THE DENTISTS.—The dentists of this city have united in asking for an amendment to the medical practice bill, now pending before Congress, which is broad in scope. It reads as follows: "Provided that nothing in this act shall limit dentists who are duly registered in compliance with the law applying to that branch of the healing art, in the practice of medicine and surgery with relation to the teeth, mouth, jaws, and associated parts." The adoption of the amendment would seem to give dentists full right to practice medicine as regular physicians.

THE PUBLIC SERVICE.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from January 4, 1896, to January 10, 1896.

The appointment of James Sprigg Wilson to be Assistant Surgeon with the rank of First Lieutenant, to date from Dec. 16, 1895, is announced. He will report in person without delay to the president of the Army Medical School for instruction.

Major Clarence Ewen, Surgeon, is granted leave of absence for six months, on account of disability.

Change of Address.

Bowle, M. K., from Barber Bldg to Saus Bldg, Joliet, Ill.

Connell, M. E., from Wauwatoso, Wis., to 710 Jackson Boul., Chicago, Ill.

Davis, H. I., from 14 Fowley Street to 2962 Wabash Avenue, Chicago, Ill.

Herman, M., from Washington, D. C., to 1535 Calliope Street, New Orleans, La.

Loar, L. T., from Dingess, W. Va., to Darbyville, Ohio.

Mennett, O. H., street address cor. Vermont Avenue and Jefferson Street, Los Angeles, Cal.

Neyman, E. H., from cor. Reed Street and National Avenue to 30 and 31 Mack Block (cor. East Water and Wisconsin Streets), Milwaukee, Wis.

Prentiss, D. W., from Washington, D. C., to Harrington House, Hamilton Parish, Bermuda.

Potts, J. S., from San Jose to 206 S. Broadway, Los Angeles, Cal.

Russell, L. B., from Goodwin to Hoopston, Ill.

Rives, W. C., from Washington, D. C., to 22 W. 33d Street, New York, N. Y.

Schmidt, O. L., from 103 Randolph Street to 3328 Michigan Avenue, Chicago, Ill.

The Medical News, from Philadelphia, Pa., to 111 Fifth Avenue (cor. 18th Street), New York, N. Y.

Thomas, John D., from 1400 K Street N. W. to The Cairo, Washington, D. C.

LETTERS RECEIVED.

American Laundry Machinery Co., Cincinnati, Ohio; Ayer, N. W. & Son, Philadelphia, Pa.; Allen, Benj. G., Robbins, Tenn.; Allnutt, H., St. Paul, Neb.; Ashton, W. W., Alexandria, La., Arnold, H. H., Washington, D. C.

Bowen, Chas. H., Washington, D. C., (2); Balmer, A. F., Brookville, Pa.; Bennett, John, Detroit, Mich.; Bailey, E. S., Chicago, Ill.; Bogle, M. A., Kansas City, Mo.; Bush, J. Foster, Boston, Mass.; Burchmore, John H., Evanston, Ill.; Beck, Carl, New York, N. Y.; Beebe, C. E., Watsonville, Cal.; Bertling, A. E., Chicago, Ill.

Claussen, J. E., Omaha, Neb.; Crenshaw, J. W., Cadez, Ky.; Croft, Benjamin P., New York, N. Y.; Chambers, J. H. & Co., St. Louis, Mo.; Columbus Phaeton Co., Columbus, Ohio; Castle, Wilmot & Co., Rochester, N. Y.

Davis, N. S., Chicago, Ill.; Davis, H. I., Chicago, Ill.; Dudley, L., Chicago, Ill.; Danforth, L. L., New York, N. Y.; Dillon, T. C., Chicago, Ill.; Damrell & Upham, Boston, Mass.; Dodge, J. D., Cuyahoga Falls, Ohio; Drake, N. A., Kansas City, Mo.; Dameron, L. D., Phoenix, Ariz.

Edwards, S., Oakfield, Wis.; Ely, Ernst S., Barnesville, Ohio; Edwards Geo. A., Syracuse, N. Y.

Frank C. Baker Adv. Agency, New York, N. Y.; Fortier, S. M., New Orleans, La.; Ferguson, F., New York, N. Y.; Fowler, W. S., Chicago, Ill.; Fink, J. W., Chicago, Ill.

Greene, H. L., Mt. Pleasant, Iowa; Goss, I. H., Athens, Ga.; Gifford, H., Omaha, Neb.; Gates, W. C., Ontonagon, Mich.; Gray, J. G., Philadelphia, Pa.; Gallagher, G. W., New Haven, Pa.

Hummel, A. L. adv. Agency, New York, N. Y.; Hamilton, W. D. Columbus, Ohio; Holmes, Bayard, Chicago, Ill.; Hammond, J. D., Chicago, Ill.; Herman, M., New Orleans, La., (2); Hawley, D. C., Burlington, Vt.; Harvey Co., The, G. F., Saratoga Springs, N. Y.; Hoff, Wm. H., Eaton, Ohio.

Ill, C. L., Newark, N. J.

Jones, W. D., Rising City, Neb.

Kansas City Advertising Co., Kansas City, Mo.; Knox, C. S., Superior, Wis.; Knapp, Chas., Evansville, Ind.

Luehr, Edward, South Chicago, Ill., (2); Loar, L. T., Darbyville, Ohio; Lea Brothers & Co., Philadelphia, Pa.; Lippincott, J. B. Co., Philadelphia, Pa.; Lee, J. Ellwood & Co., Conshohocken, Pa.; Lindsley, J. Berrien, Nashville, Tenn.

McFall, D. M., Mattoon, Ill.; Marchand, Chas., New York, N. Y.; Medlin, P. A., St. Louis, Mo.; Monosmith, O. B., Lorain, Ohio, (2); McCollom, Wm., Brooklyn, N. Y.; Metcalf, C. N., Indianapolis, Ind.; Maywit, L., Chicago, Ill.; Magruder, G. L., Washington, D. C.; Morice, J. Henry, Philadelphia, Pa; Mason, D., Spokane, Wash.; Miller, Wm. L., Washington, D. C.; Mennett, O. H., Los Angeles, Cal.; Marchand, V. H., Haubstadt, Ind.

Newman, D. C., Spokane, Wash.; Nichols, M. M., Healdsburg, Cal.

Prentiss, Spencer D., Washington, D. C.; Pickford, E. F., Washington, D. C.; Posman, A., Wapakaneta, Ohio; Parkhill, Clayton, Denver, Colo.; Potts, J. S., Los Angeles, Cal; Pettyjohn, E. S., Alma, Mich.

Reed & Carnrick, New York, N. Y.; Rhodes, John Edwin, Chicago, Ill.; Ravogli, A., Cincinnati, Ohio; Rives, W. C., New York, N. Y.; Reed, R. Harvey, Columbus, Ohio.

Sweet, A. A., Chicago, Ill.; St. Peter State Hospital, St. Peter, Minn.; Steele, A. Newton, Columbus, Miss.; Sanitarium The, Battle Creek, Mich.; Seibert, W. H., Steelton, Pa.; Schimmel, M. S., Baltimore, Md.; Somers, G. Horace, Chicago, Ill.; Stuart, J. H., Minneapolis, Minn.; Schenck, W. L., New Castle, Colo.; Subscription News Co., Chicago, Ill; Stechert, G. E., New York, N. Y.

Thomas, John D., Washington, D. C.; Taylor, W. A., Booneville, Miss.; Van Hook, Weller, Chicago, Ill., (2); Valentine Meat Juice Works, Richmond, Va.

Wagley, T. J., Cleburne, Texas; Weber, A. H., Des Moines, Iowa; Würdemann, H. V., Milwaukee, Wis.; Woodbridge, L. D., Williamstown, Mass.

Zumo Pharmacal Co., St. Louis, Mo.